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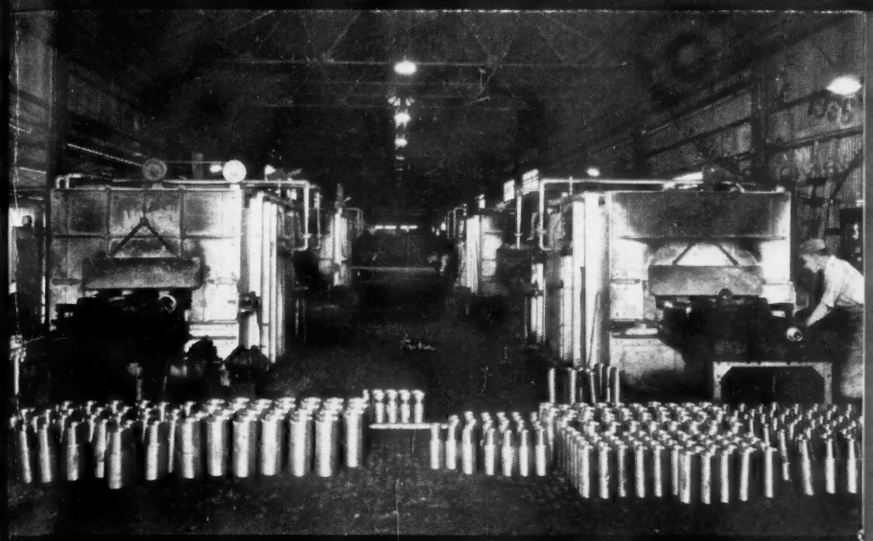
OIL WEEKLY

THE WEEK'S NEWS INTERPRETED



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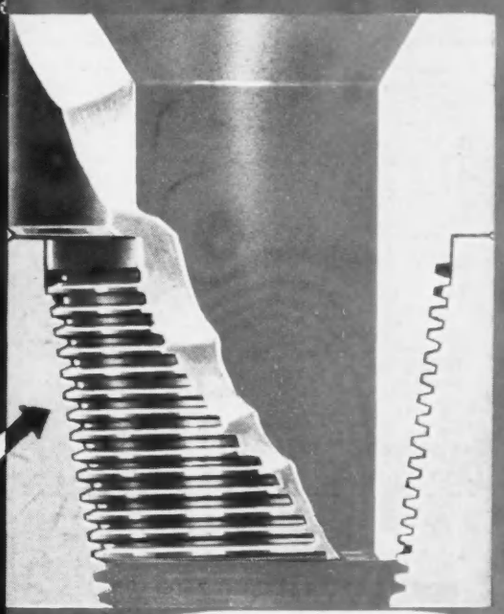

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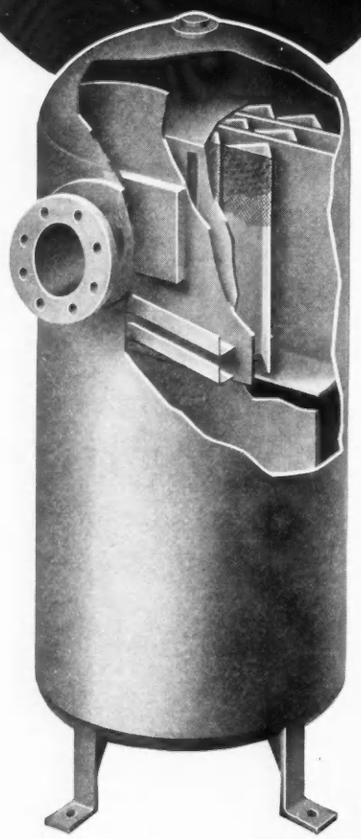

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PUBLISHED BY
THE GULF PUBLISHING COMPANY
HOUSTON, TEXAS
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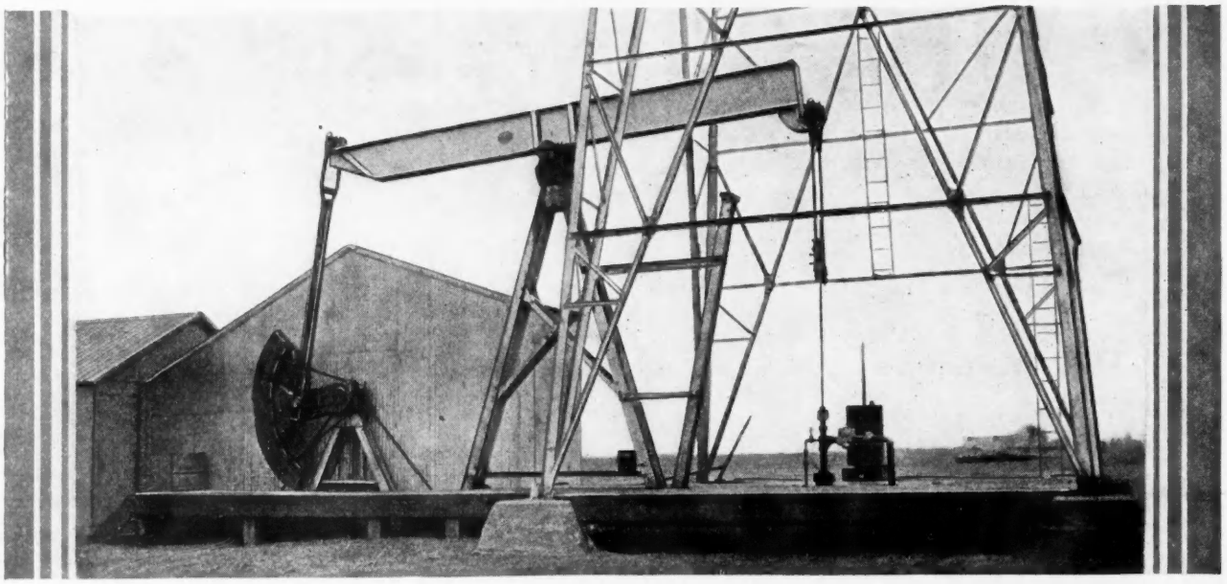
SPECIALIZED OIL JOURNALS
Published by
THE GULF PUBLISHING COMPANY

BRANCH OFFICES

NEW YORK.....250 Park Ave.
PITTSBURGH.....Standard Life Bldg.
CHICAGO.....332 S. Michigan Ave.
LOS ANGELES.....Haas Bldg.
TULSA.....Hunt Bldg.
FORT WORTH.....W. T. Waggoner Bldg.
WASHINGTON.....Albee Bldg.

Member Audit Bureau of Circulations.

Published every Monday. Single Copies 15 cents. Subscription price: domestic and foreign, $2.00 a year. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879. Subscription restricted to those engaged in the producing and pipe line branches of the oil industry or the manufacturing and distribution of oil field supplies.
Advertising rates on application.



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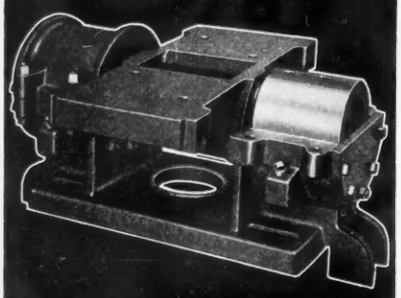

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THE OIL WEEKLY

FOR OIL AND GAS PRODUCERS
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ENGINEERING NEWS STATISTICS

WARREN L. BAKER, Editor.

. . . this Week

PRESIDENT ROOSEVELT has suggested a thorough revision of corporation tax laws to Congress. He recommended a tax on undistributed profits be accompanied by repeal of the present corporation income tax, the capital stock tax, the excess profits tax, and the exemption of dividends from normal tax on individual income. It estimated that this move will add an additional revenue of $620,000,000 a year to the government. **Page 8.**

SHRINKAGE of the fluid level and appearance of free gas are causing pumping difficulties along the east border of the East Texas field. The spread of the gas cap is thought to be the result of the decline of the bottom-hole pressure to a point that the gas is coming out of solution. Some wells have reached a stage where they are limited to a small output of wet gas. **Page 15.**

CREATION of a second Federal Tender Board, to control the increasing production of the Rodessa field is being considered. The growing output of the area has been a source of concern to many companies, and reports have been current of hot oil activities. Meanwhile, Louisiana conservation officials have reduced the allowable from 500 to 400 barrels per well. **Page 9.**

EARNINGS of oil companies in 1935 were in most cases higher than in the preceding year according to financial statements. Several companies showed large improvement, while, naturally, there were others whose position did not enable them to show the same results. **Page 42.**

ALTHOUGH U. S. S. R. production in 1935 was up five percent it did not reach its planned output, despite expenditure of considerable capital for oil exploration and drilling. Of the new discoveries in 1935, none appear important unless it is the Ural-Emba region, which gains its rank not through production discovered but because of its possibilities. Some estimate that this 270,000 square mile area contains 1500 salt domes. Meanwhile consumption of petroleum products in the country have increased enormously, and are expected to continue to grow. Therefore, the government's 1936 program calls for another increase in production and refining. **Page 36.**

The Oil Man's Calendar

MAR. 19-21	American Association of Petroleum Geologists, Tulsa, Oklahoma.
19-21	Society of Petroleum Geophysicists, Tulsa Hotel, Tulsa, Oklahoma.
APR. 9-10	American Petroleum Institute, Division of Production, Southwestern District, Shreveport, Louisiana.
11-13	Petroleum Industry Electrical Association, Tulsa, Oklahoma.
13-17	American Chemical Society, Petroleum Division, Kansas City, Missouri
14	American Petroleum Institute, Division of Production, Pacific Coast District, Los Angeles, California.
16-18	National Petroleum Association, Cleveland, Ohio.
20-25	Oil Equipment & Engineering Exposition, Houston, Texas.
MAY 5- 8	American Gas Association, Natural Gas Department, Dallas, Texas.
13-15	American Petroleum Institute, Mid-Year Meeting, Tulsa, Oklahoma.
13-15	Natural Gasoline Association of America, Tulsa, Oklahoma.
16-23	International Petroleum Exposition and Congress, Tulsa, Oklahoma.
21	Independent Petroleum Association, Tulsa, Oklahoma.
22	National Stripper Well Association, Tulsa, Oklahoma.
JUNE 17-20	American Society of Mechanical Engineers, Dallas, Texas.
18-19	Pennsylvania Grade Crude Oil Association, State College, Pennsylvania.
NOV. 9-12	American Petroleum Institute, 17th Annual Meeting, Chicago, Illinois.

SEVERAL operators have been attempting to improve the service received from rotary chains and drilling lines. Their research work has shown that with proper care on the rig floor these items will give better performance records. With rotary chains it has been found that proper lubrication is the most important item, and several improvements in lubricating them have resulted in more efficient service. A study of the wire line service has shown that eight lines give better results than six lines. The use of additional lines through better performance more than makes up for the sacrificed speed. **Page 21.**

WITH drilling mud control becoming more important and complicated each day, it is of growing importance that the supervisor in charge of this work be qualified to perform his duties. Furthermore, it is of advantage to have the services of a geologist on each test, since determination of formation depths and their characteristics in advance is of great assistance to the mud supervisor. Such information enables him to prepare his mud properly for drilling the different formations encountered. **Page 19.**

IRREGULAR terrain and soil conditions were among the construction problems found in laying the recently completed Crystal, Michigan, to Detroit 140-mile eight-inch oil line. A soil survey over the entire route revealed a heavy sulphur condition on the south end and special precautions were taken to combat the evils of corrosion. Swamps were particularly numerous, as were river and road crossings. **Page 25.**

METHODS of controlling excessive oil/gas ratios in several Southwest Texas fields were considered by the Texas Railroad Commission last week. Conditions in most of the fields were shown to be relatively good, however in a few isolated cases the wells are exceeding the permitted gas/oil ratio established by the state. **Page 8.**

Tax Revisions

ROOSEVELT URGES CHANGES; GASOLINE LEVY SUGGESTED

WASHINGTON, D. C.

THOROUGH revision of the corporation tax laws, involving the imposition of a graduated tax on undistributed corporate profits from which $1,614,000,000 could be raised annually, was recommended to Congress March 3 by President Roosevelt.

Treasury officials March 6 frowned upon recommendations made to the tax group of the House ways and means committee that the levy on gasoline be increased one-half cent per gallon, from which it was estimated an additional revenue of $87,000,000 a year could be secured.

Discussing proposals laid before the sub-committee for alternatives to the tax on the undistributed profits of corporations recommended by President Roosevelt, the treasury in a memorandum pointed out, with respect to the proposal on gasoline, that such an increase would probably be opposed by state and local governments which are relying heavily upon gasoline taxes.

Informing Congress that recent decisions of the Supreme Court will deprive the Treasury of $1,017,000,000 in taxes and the immediate payment of the soldiers' bonus will add approximately $120,000,000 a year to government expenditures, the President indicated his belief that the time is opportune for a rewriting of the corporation tax laws to remove inequalities and stop "leaks."

In this connection, he recommended that imposition of a tax on undistributed profits be accompanied by repeal of the present corporation income tax, the capital stock tax, the excess profits tax and the exemption of dividends from normal tax on individual income. Elimination of these levies would mean a loss of approximately $994,600,000 a year, but a net additional revenue of about $620,000,000 a year would result.

No reference was made in the message as to provisions to be written permitting the building up of a surplus by corporations in time of prosperity to tide them over in times of depression, although it was only because of such surplus funds that many of the country's corporations, large and small, were able to weather the depressed conditions of the past five years.

The corporation tax proposals constitute another step in the "soak the rich" program of the administration, it was indicated by the President's statements that the suggested revision would aid small corporations and stockholders who need their dividends and affect chiefly large organizations and wealthy stockholders who can leave earnings to accumulate.

"Extended study of methods of improving present taxes on income from business warrants the consideration of changes to provide a fairer distribution of the tax load among all the beneficial owners of business profits whether derived from unincorporated enterprises or from incorporated businesses and whether distributed to the real owners as earned or withheld from them," the President told Congress. "The existing difference between corporate taxes and those imposed on owners of unincorporated businesses renders incorporation of small businesses difficult or impossible.

"The accumulation of surplus in corporations controlled by taxpayers with large incomes is encouraged by the present freedom of undistributed corporate income from surtaxes. Since stockholders are the beneficial owners of both distributed and undistributed corporate income, the aim, as a matter of fundamental equity, should be to seek equality of tax burden on all corporate income whether distributed or withheld from the beneficial owners. As the law now stands our corporate taxes dip too deeply into the shares of corporate earnings going to stockholders who need the disbursement of dividends; while the shares of stockholders who can afford to leave earnings undistributed escapes current surtaxes altogether."

UNIFORM TAXES

Compact board to discuss taxes and conservation

OKLAHOMA CITY

UNIFORM gross production or ad valorem tax on oil and uniform conservation measures will be the chief topics for discussion in the meeting of the Oil States Compact Commission to be held here on Friday, March 13, according to Tom Anglin, Oklahoma representative to the commission. Terming the meeting as "one of the most important since the commission was formed" Anglin said that sentiment also would be sounded in regard to continuance of the commission beyond September 1, 1937, the expiration date provided by the present law. Representatives from all of the compacting states as well as of the American Petroleum Institute, Independent Petroleum Association of America and many of the non-compacting states were expected to be in attendance.

Gas-Oil Ratios

TEXAS COMMISSION HEARS EVIDENCE ON SOUTH FIELDS

AUSTIN.

METHODS of controlling excessive oil-gas ratios in Nueces County, were considered at a hearing before the Texas Railroad Commission last week. The hearing was called to consider conditions in Clarkwood, Corpus Christi, Old Saxet, and New Saxet fields.

At the hearing it was brought out that the commission is treating Clarkwood and New Saxet as one field, and since operators from the Old Saxet Field could not attend, that hearing was delayed until March 14.

Evidence presented on Corpus Christi and New Saxet indicate that conditions in each field were relatively good. Four wells in these two fields had gas-oil ratios in excess of the allowance of 3000/1 permitted under Railroad Commission regulations.

Mack Coker, Railroad Commission Petroleum Engineer stationed at Corpus Christi, said that only two of the 25 wells in the Corpus Christi field were producing with excessive ratios. He pointed out that these were the first two wells completed in the field. Because the operators lacked information as to probable producing conditions, he felt that they had failed to drill into the sand sufficiently. Coker told the commission that he believed ratios on these wells could be corrected by deepening them and setting a third string of pipe.

A similar condition existed in the New Saxet field, and Coker expressed the opinion that they could be corrected in a manner similar to that recommended for the Corpus Christi wells.

One well at Corpus Christi had a ratio of 33,720/1. The next highest ratio was 5800/1, and all the rest of the wells were below 3000/1. Late completions properly handled were producing with ratio average of 500/1, Coker said.

In discussing the Old Saxet field, Coker implied that considerable difficulty would be encountered in bringing these wells under any gas-oil ratio or total displacement regulation that would be reasonable.

The wells were drilled for gas and had been produced as gas wells. They are supplying the Corpus Christi market and some gas to industrial plants nearby. For that reason, Coker recommended that a different regulation be applied to this field from that applied to other fields in Nueces County.

V. E. Cottingham, in charge of production for the commission, suggested the installation of a total displacement regulation, but Coker opposed this plan. Under such a program, most of the wells in that field could produce only 450,000 feet a day. Coker said that it would be more practical to classify the wells as gas wells, under which regulation they would be permitted to produce all the gas they could market up to 25 percent of their daily potential.

Rodessa Control

FEDERAL TENDER BOARD IS LIKELY TO BE ESTABLISHED

WASHINGTON, D. C.

CREATION of a second Federal Tender Board to control the distribution of the ever-increasing production of the Rodessa, Louisiana, field, was under consideration in Washington last week as Secretary of the Interior Harold L. Ickes initiated a thorough investigation of complaints that adjacent states were being flooded with "hot" oil.

A complaint of conditions alleged to prevail in the Rodessa field was filed some time ago by the Independent Petroleum Association of America, and a number of petitions for an investigation have since been presented by other producers.

The steadily-growing production of the Louisiana field has long been a source of concern to oil officials, it was revealed, but hopes had been entertained that the repeated increases suggested by the Bureau of Mines in its monthly forecasts of demand would aid in keeping the situation under control.

Complaints filed with officials here allege that producers in the area are "running wild" and that the actual production is far in excess of the suggested output, with large quantities of oil going into other states.

In its petition, the Independent Petroleum Association suggested the creation of a Federal Tender Board for Louisiana, similar to the organization which has been established in Texas, as the only possible means of dealing with the situation.

No action can be taken to correct conditions in the Rodessa field until after the investigation has been completed, it was explained by Secretary Ickes. The inquiry will be pushed with all possible speed and it was indicated that if conditions warrant such action, a tender board may be established immediately.

No action by Congress would be necessary for the establishment of such an organization, it was explained, the Connally contraband oil act of February 22, 1935, applying to all states.

LOUISIANA ALLOWABLE

Rodessa wells cut from 500 to 400 barrels daily

NEW ORLEANS.

THE minerals division of the Louisiana department of conservation authorized an increase of 5800 barrels in the total allowable crude production for the state in March, as compared with February. The new allowable of 186,850 barrels daily is 35,450 barrels above the 151,400-barrel recommendation of the Bureau of Mines.

A considerable part of the increase over the February allowable goes to Rodessa field, where the new quota is 36,000 barrels daily, or 3500 barrels a day more than in February. The new allowable for all other North Louisiana fields is 20,000 barrrels, making the total for that section of the state 56,000 barrels daily, compared with 52,500 barrels previously.

The South Louisiana fields for March have a total allowable of 130,850 barrels daily, compared with 128,550 barrels daily in February. The daily allowables for March in the various fields of the Coastal district follow: Basile 1900 barrels daily, Bayou Choctaw 1050 barrels, Black Bayou 2500 barrels, Bosco 16,500 barrels, Bunkie 300 barrels, Caillou Island 10,850 barrels, Cameron Meadows 5000 barrels, Darrow 900 barrels, Dog Lake 850 barrels, East Hackberry 7000 barrels, English Bayou 5900 barrels, Evangeline 1500 barrels, Four Isle 500 barrels, Garden Island Bay 1000 barrels, Gillis 6300 barrels, Gueydan 250 barrels, Iberia 3000 barrels, Iowa 18,500 barrels, Jeanerette 650 barrels, Lake Hermitage 300 barrels, Lafitte 3600 barrels, Lake Barre 9500 barrels, Lake Pelto 500 barrels, Lake Washington 1500 barrels, Leesville 14,000 barrels, Lockport 1400 barrels, Port Barre 3000 barrels, Roanoke 5000 barrels, St. Martinville 850 barrels, Starks 550 barrels, Sulphur Mines 2250 barrels, Sweet Lake 1100 barrels, Vinton 2100 barrels, White Castle 750 barrels.

LOUISIANA ACTS

Operatives are placed at Rodessa to limit volume

SHREVEPORT.

WHILE the general petroleum industry and the federal government were keeping a close watch on the growing production in the Rodessa field, both Louisiana and Texas officials were studying the situation.

Last week Louisiana took the first definite steps when it cut the per well allowable of the field from 500 to 400 barrels per well. This gives the field an output of 36,000 barrels on the basis of 90 producing wells, but each well added during the month will be permitted to produce 400 barrels daily.

The most important action taken was that of Governor James A. Noe of Louisiana, who himself is an independent oil and gas operator. After a series of personal conferences in Shreveport on March 6 with Rodessa operators, he announced that General Louis F. Guerre, head of the Louisiana Bureau of Criminal Identification, and ten operatives of the bureau had been assigned to the Rodessa district to prevent movement of hot oil. More operatives will be assigned later if the situation warrants.

The governor said he came to Shreveport to investigate the situation upon the request of several operators. He declared that there need be no fear of hot oil becoming a problem at Rodessa. He stated that the allowable of 400 barrels per well will be strictly enforced, and any operator or company found exceeding it will have his wells shut down.

"The oil fraternity need have no fear of hot oil operations at Rodessa," Noe said. "Wells will be kept within the 400-barrel allowable. I am going to see that they stay within the allowable and will not let a few violators and hot oil merchants interfere with legiti-

NEXT WEEK

The OIL WEEKLY

will publish its third

Gulf Coast Engineering and Development

NUMBER

THESE ISSUES have proved the most popular publication by any oil magazine, and additional pride is taken in the 1936 edition, which will prove of greater value due to publishing of more development details and much new valuable data.

Most important of the additions in this year's **Gulf Coast Issue** is much crude oil reserve data. Moreover, all previously published **Gulf Coast Issue** data have been brought to-date, including the popular insert map (which also includes Southwest Texas.) The Nomenclature Committee of the Houston Geological Society has checked and approved the names of all producing oil fields and proved salt domes listed in this book.

A point of great pleasure is that a majority of the new discoveries made since the last issue (July 16, 1934) have been on prospects listed at that time. More than 600 fields and prospects will be carried on the 1936 insert map, while 397 fields and prospects receive individual editorial treatment (those not being covered are in Southwest Texas).

mate operators. Everyone will be treated fairly and impartially."

Guerre's operatives detained three trucks March 13 at Rodessa until they paid a tax to the supervisor of public accounts.

A conference between Dr. J. A. Shaw, proration umpire for Louisiana, and Colonel E. O. Thompson of the Texas Railroad Commission to discuss Rodessa had been expected to take place in Shreveport on February 28. However, unavoidable circumstances prevented the meeting. Officials of the two states are expected to confer the latter part of the week now.

Some authorities believe that the most pressing problem at Rodessa is that of back allowable. Some operators have been producing only a part of their allowable and the back allowable may be produced later when the operator can sell his oil more advantageously.

ANNUAL MEETING

Society of Geophysicists to hear many papers

TULSA.

THE Society of Petroleum Geophysicists plan a very full technical program during its annual meeting, which is to be held in Tulsa March 19 to 21, 1936.

On Thursday morning, March 19, President B. B. Weatherby will be chairman of the meeting. In addition to business matters and an address of welcome, the following technical papers will be presented: "Some Theoretical Problems Concerning the Seismic Method" by Professor B. Gutenberg; "Seismic Computations" by M. M. Slotnick; "Earth Temperature Measurements Over Two Known Structures" by E. E. Blondeau; "Relation Between Firing Current and Performance in Seismograph Caps" by L. A. Burrows; and "A Refraction and Reflection Fan to 187.8 Kilometers" by L. D. Leet. At noon a geophysicists' luncheon will be served in Tulsa Hotel.

During the afternoon of March 19, D. C. Barton will serve as chairman, and the following technical papers will be heard: "The Organization of an Effective Exploration Department" by B. B. Weatherby; "The Crosbyton Anomaly" by D. C. Barton; "Geothermal Methods of Estimating the Age of the Earth" by C. E. Van Ostrand; "Geophysical History of Darrow Salt Dome" by T. I. Harkins; "Geophysical History of the Mykawa Oil Field" by T. I. Harkins; "A Recommended Program for the Exploration of the Great Plains" by J. H. Wilson; "Controlled Directional Sensitivity—A Method for Adapting Reflection Methods to Complex Structures" by Frank Rieber; and "Magnetic Survey of Southern Alabama" by J. Brian Eby.

E. E. Rosaire will be chairman on Friday morning, March 20, when the following program will be delivered: "Absolute and Relative Energy Relations in the Reflection and Refraction of Elastic Waves" by J. B. Macelwane; "Geothermal Gradients in the Oriskany Sand in New York, Pennsylvania and West Virginia" by C. E. Van Ostrand; "Some Aspects of Multiple Recording" by P. W. Kipsch; "True Ground Motion from Mechanical Seismograph Records" by A. B. Byran; "Electrical Earth Transients in Geophysical Prospecting" by Louis Statham; "Torsion Balance Surveying in Inundated Areas" by F. J. G. Neumann; "Laboratory Determination of Elastic Contents" by J. M. Ide; and "Optimum Geophone Spreads for Reflection Surveys" by L. Y. Faust.

During the afternoon of March 20, Eugene McDermott will be the chairman and will preside over the following papers: "Comparative Torsion Balance and Gravimeter Survey" by E. A. Eckhardt; "The Growth of Company Owned Operations in Geophysical Prospecting Since 1930" by E. E. Rosaire; "The Divining Rod" by L. J. Neuman; "Effect of Development Time and Developer Temperature on the Production of Photographic Seismograph Records" by Frederick A. Tompkins; and "Notes on Reflections from Steeply Dipping Beds" by C. A. Heiland. In addition to the above discussions, Barney Fisher and J. C. Karcher will also present technical papers during this session.

The closing sessions of the meeting will be on Saturday, March 21, when Paul Weaver will be chairman. The following technical papers will be delivered: "Significance of Some Fundamental Properties of Explosives With Special Reference to Geophysical Prospecting" by J. Barad; "The Seismic Electric Effect, and Its Use in Recording Seismic Waves" by R. R. Thompson; "A Simplified Circuit of the Seismic-Electric Method and Its Steady State Solutions" by M. M. Slotnick; "Explosives for Seismic Prospecting" by N. G. Johnson and G. H. Smith; "True Horizontal Displacements near a Five-Ton Blast" by L. D. Leet; and "Geophysical Studies in Antarctica" by C. G. Morgan.

New Rodessa Lines

ATLANTIC AND OTHERS SOON TO RELIEVE SITUATION

SHREVEPORT.

ADDITIONAL facilities for handling the output of the Rodessa field are to be provided at once. These new outlets are expected to solve the question of sufficient transportation facilities.

Facilities for handling 22,000 barrels of crude oil daily from the Rodessa field are to be provided by Atlantic Pipe Line Company, Dallas, through construction of a 60-mile eight-inch welded line that will extend southwest from the field to the company's Horton station and tank farm situated on the east edge of the East Texas field in southern Gregg County. A 10-inch line extends from this point to Atreco, near Beaumont, on the Gulf Coast, and is rated at 45,000 barrels daily. It is handling 38,000 barrels of East Texas crude today. The Rodessa unit is scheduled to be in operation about May 1, according to J. Harry Wood, general manager.

Three 55,000-barrel steel storage tanks will be erected in the Rodessa field by Atlantic Pipe Line Company. Gathering system will be constructed in both the Texas and Louisiana sections of the field in serving well connections now committed to Atlantic Petroleum Purchasing Corporation, crude buying subsidiary of Atlantic Refining Company. The latter is erecting a modern refinery at Atreco at present.

Other Lines Planned

Arkansas-Louisiana Gas Company is surveying right-of-way for a six-inch line from Rodessa to connect with its four-inch line at Oil City, Louisiana. Magnolia Petroleum Company is at work on an eight-inch line, and The Texas Pipe Line Company has completed survey and bought right-of-way for a 12-mile line to connect Rodessa with its Pine Island trunk.

Standard Pipe Line Company completed a 25,000-barrel capacity line to the field last summer, and a few weeks ago Gulf Refining Company completed a line with the plan of handling 10,000 barrels daily and has made a number of connections.

East Texas Oil & Refining Company is working on a 56-mile line from Longview, Texas, to Rodessa, and has completed one 55,000-barrel tank on Pelican Oil & Gasoline Company's Sexton lease in Section 14-23n-16w. This line will connect with International Pipe Line Company's (Liberty Pipe Line Company) system under construction from Rusk to Conroe, and will provide another outlet to the Gulf Coast. It is understood the company has contracts with Haynes Production Company, which recently has been running some oil to storage, with McAlester Fuel Company (J. G. Puterbaugh), with Pelican Oil & Gas Company and Vaughn Production Company.

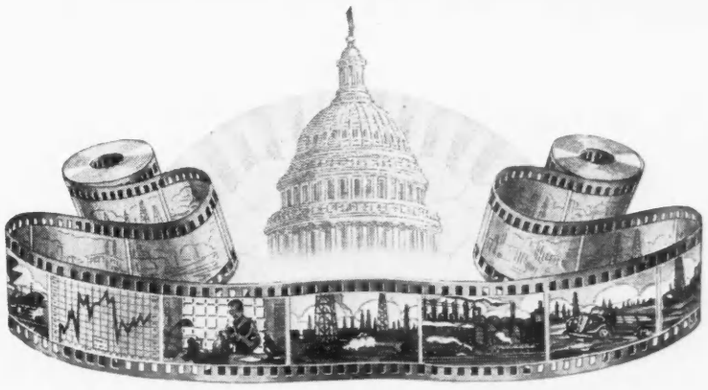
Engineers now place the approximately productive acreage on the Louisiana of Rodessa at 5000 to 5600 acres with an ultimate recovery, provided conservation is properly practiced, of approximately 150 milllion barrels. The picture of the Texas side of the field is still too indefinite to make forecasts, however, it should be as large or larger than the Louisiana side.

WELL SPACING SUIT

HOUSTON.

THE validity of Rule 37 of the Texas Railroad Commission, which restricts the spacing of wells in the East Texas field, was attacked before a three-judge federal court in Houston on February 29. The suit is that of J. O. Whittington, oil operator, against the railroad commission.

The Changing Panorama



THE OIL WEEKLY'S COMPOSITE VIEW OF INDUSTRY

Edited by L. J. LOGAN, Associate Editor

MUCH of interest has been put down lately by the moving finger that writes and moves on.

The words have been from the realms of politics and economics as well as industry and commerce.

As the writing has come forth, it has been caught up by the designers of headlines, and condensed into terse language.

Roosevelt, in momentous message, recommends tax on undistributed corporation profits . . . New drive for 30-hour week is seen . . . Oil companies seek escape from filling station chain store taxes . . . I. C. C. cuts rail fares in North and East (maybe meaning more rail business and less motoring) . . . Reduction urged in gasoline taxes (Same old, futile cry) . . . California crude prices now best since 1931 . . . But all that glitters is not gold: Pacific Coast gasoline prices (later) cut three cents . . . British offer to place embargo on oil shipments to Italy, if other nations of League do same . . . Texas well-spacing and gas regulation attacked in federal court.

Berry calls parley on business and labor . . . Steady oil demand permits higher allowables . . . Rodessa is problem for Louisiana-Texas oil control boards . . . Byles says oil scarcity not near . . . Oil companies spending on refineries and stations . . . Auto sales running strong . . . Oil securities in favor . . . New crude oil uses cited by chemists . . . Drilling above last year . . . Output of electricity at new peak in 1935; production by oil up 9.2 percent over 1934 . . . Gasoline consumption in 1935 highest on record; shoe production in 1935 highest on record (the less you walk, the more shoes you buy) . . . Gasoline pump shipments in 1935 nearly double those in 1934 . . . Pipe line building shows increase . . . Oil industry's markets generally steady . . . Oil company earnings in 1935 best since 1930.

Outside of these matters, there hasn't been much happening lately, to interest the oil man.

Currents Beneath the Smooth Surface

From all this mass of developments affecting the oil business, what significant conclusion can be drawn? Clearly, the current developments and trends point upward and onward. The oil business has some things to fear or to worry a little over, such as the growing tax burden and the threats of heavier taxes. But the industry is getting on. It is doing a near-record volume of business, with prices the best since 1930. It appears that for 1936 earnings will be generally the best in history with exception of those in 1929.

Searching beneath the surface of the present developments and trends, however, and considering the fundamental economic circumstances, the observer may reasonably entertain some doubts. Unemployment still is an unsolved problem, with workers getting back on payrolls very slowly and the Social Security Act threatening to substitute machines for men. The American Federation of Labor reported that 12,626,000 persons were jobless in January, an increase of 1,229,000 over December, and the largest December to January gain in five years. Although the increase was attributed in part by some to the severe weather, it was ascribed by the A. F. of L. to curtailed manufacturing and longer working hours. The matter caused much concern in Congress. There was talk of reviving the Black 30-hour week bill, although arguments were offered to the effect that unemployment can be relieved only by free sway of economic forces and business initiative, rather than through legislation. The attitude of the government toward wages, hours, child labor, anti-trust laws, and industrial recovery possibly will be affected by the recommendations expected to be made to the president shortly by the business-labor council of George L. Berry, industrial cooperation co-ordinator. The council will receive reports of committees on March 12, and after studying the reports is expected to offer recommendations. Meanwhile, the markets for farm products still are not healthy, as prices are at present levels only with benefit of artificial support furnished by the government; the prices continuing above world parity. Heavy taxation is a certainty, indefinitely into the future.

New Tax Policy Looms

Although the president's tax proposal last week sent printers scurrying for extra large type, the ultimate significance of the plan cannot yet be seen. To attempt to foresee the effect on the oil industry

at this juncture would be to try to foretell the unkown. For it is conjectural what Congress will do with the president's proposal.

The chief executive recommended that Congress repeal the present taxes on capital, income, and excess profits of corporations, and that it impose a new, drastic tax on undistributed profits of corporations. The greater revenue expected would be used to pay for farm subsidies and the soldies' bonus.

The plan was condemned on one hand as an assault on thrift and prudence, and as a menace to business confidence. It was hailed on the other hand as a means for increasing the turnover of money and for speeding recovery, since the new taxes would tend to force corporations to pay out earnings in dividends instead of holding the profits as reserves.

As the ways and means committee of the House began considering the tax proposal, there were hints that drastic changes likely would be made. But there were predictions, also, that the general principles, if not all the details, of the proposed taxing policies ultimately would be enacted.

Chain Store Taxes Studied

Leaders in the oil industry have renewed their study of the problem of dealing with chain store taxes, following the recent decision of the United States Supreme Court. The court held that chain store taxes in West Virginia apply not only to stations operated by the larger companies but also to stations leased by the companies to managers or others. Consequently, the chain store tax cannot be evaded by the leasing arrangement. In some instances, companies have sold service stations outright, because of being unable to operate them profitably while paying the chain store taxes. The policies of the companies have varied with the different tax laws in the separate states that have such taxes.

Marketing Code Approved

A committee of three members, representing marketers of the Middle West, is at work seeking national acceptance of a marketing code that was approved February 27 at a conference of marketers in Chicago. The code will be presented to the Federal Trade Commission for approval, preferably as a national code, but if national acceptance within the industry is not obtained, then as a regional code for the Middle West.

More Rail Travel in Prospect

Travel by rail undoubtedly will be increased in consequence of the recent Interstate Commerce Commission order reducing passenger fares in the North and East, effective June 2. Conversely, it is to be expected that gasoline consumption will be curtailed to some extent, by reason of switching to rail travel from travel by bus or private automobile. The lower rates are an experiment in an effort to revive passenger traffic of the railroads. New fares will be 2 cents a mile in coaches and 3 cents a mile in Pullmans, compared with the present regular fares of 3.6 cents a mile in coaches and 3.6 cents plus the surcharge in Pullmans. For about two years reduced fares have been in effect in the South and West, the fares being 1.5 cents in coaches and 3 cents in Pullman cars in the South and 2 cents in coaches and 3 cents in Pullmans in the West.

Bus fares likely will be reduced in the North and East, since the new rail fares are but slightly higher than the prevailing bus rates. However, the reductions by the buses may be only nominal, as the buses in the South were able to maintain their traffic without losses, in the face of reduced rail fares, by making only moderate reductions in rates.

Railroads Plan Truck Operation

Although the oil industry may lose some gasoline business through the impending lower rail fares, there is another development in the affairs of the railroads that may offer compensation. The railroads contemplate bolstering their freight business by operation of correlated and affiliated motor truck systems. They already have made similar ventures in the passenger traffic field, operating bus systems as adjuncts to the rail systems.

Oil Embargo Up Again

The proposed oil embargo against Italy will not be pushed, if at all, until after March 10. Meanwhile the League of Nations has been awaiting a reply from Italy and Ethiopia to the conciliation committee's plea for peace. Britain has insisted, however, that the League's sanctions committee of 18 proceed with drafting of a detailed plan for an oil embargo, to be applied if the peace negotiations fail. Meanwhile, the sanctions committee has a sub-committee working on the oil embargo plans. Great Britain has indicated readiness to proceed with the sanctions, provided other oil-producing and oil-transporting members of the League take similar action.

The new plans, at least in so far as Britain is concerned, are not conditioned on a limitation by the United States of its exports to Italy to a normal level; although it was insisted within the League previously that such American cooperation was necessary for success of an embargo. Within League circles, however, there was pleased cognizance of President Roosevelt's recent statement to American business men urging that there be no increases in exports of raw materials to the warring countries.

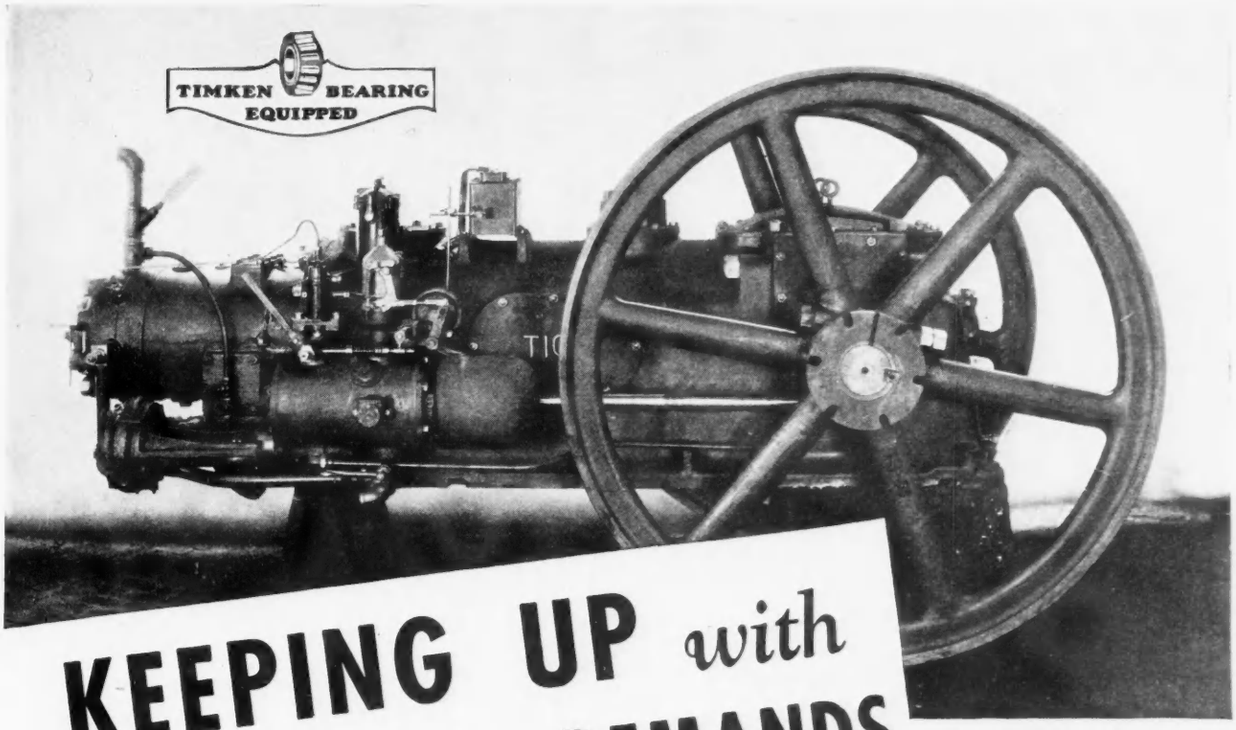
Markets Generally Steady

The markets improved slightly during the past week, from a national standpoint.

Retail gasoline prices were reduced from one half to three cents a gallon throughout the Pacific Coast region, as major companies met competition, and wholesale prices also were readjusted. But it was hoped that better prices would materialize soon, as California crude production continues curtailed with fair effectiveness, with the recently raised prices rewarding producers for their restraint.

East of the Rockies, markets continued steady, with prices growing somewhat firmer. Kerosene is in strong demand, as spring plowing approaches, and prices are improved over a week ago. Gasoline consumption has increased, with milder weather prevailing; and prices have stiffened somewhat, although the market still is held back by surplus stocks accumulated during the long period of severe weather.

The crude oil markets are firm at present throughout the country, with production held down in close conformity with the market requirements. In view of current success in controlling production, it seems quite possible that spring may bring fulfillment of hopes for further moderate improvement of crude prices.



KEEPING UP *with* PRODUCTION DEMANDS

Tico Type "BL" 11" x 15" Full Diesel or 12" x 15" Semi-Diesel Oil Field Engine equipped with Timken Bearings on the crank shaft.

Let speeds and loads be what they may, Timken Bearings have all of the qualities it takes to meet—and beat — them . . . friction elimination; wear resistance; radial-thrust load capacity; and ability to hold moving parts in correct and constant alignment.

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No other type of bearing can even come close to equalling the performance record of Timken Bearings in oil field service. Because of that your most important question when buying any kind of equipment is: "Is it Timken Bearing Equipped?" Most of the leading makes are.

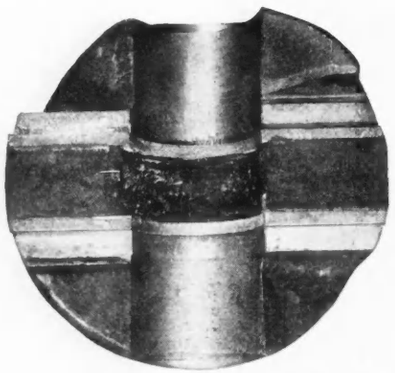
THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

TIMKEN *TAPERED ROLLER* **BEARINGS**

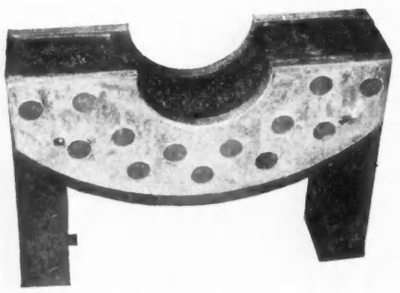
Wear-down test

PROVES

that new Cameron self-feeding ram packing makes pressure-tight seat around pipe even when heavily worn down by long rotation thru closed rams



Unretouched photograph of one of the rams used in making the test described. Face of packing opposed to the drill pipe shows some wear, but this was taken up automatically during the test due to the self-feeding design of the ram packing element.



Unretouched photograph of one of the self-feeding ram packing elements used in the "wear-down" test. Note that resilient packing material is worn down about ¼ inch on the concave face opposed to the drill pipe. This wear had no effect whatever on the pressure-tight sealing ability of the unit.

Here is visible proof that drill pipe can be rotated and spudded under pressure for a long period of hours through the closed rams of a Cameron Type "SDA" Blowout Preventer—without affecting its ability to hold a leak-proof seal around the pipe. Also proved is the fact that, even after the new Cameron Type "SDA" ram packing element has been heavily worn down, its self-feeding design enables it to hold its full rated test pressure.

On a recent "wear-down" test, a Cameron 13⅜" Type "SDA" Preventer was installed on a well in which 2200 feet of casing had been cemented. With 1900 feet of drill pipe in the hole, Preventer rams were closed and 1000 pounds casing pressure built up with the slush pumps.

For a number of hours drill pipe was then rotated between 10 and 70 R.P.M. During this period, drill pipe was raised and lowered between tool joints nine times. No leaks occurred at any time. Upon examination following the test, ram packing elements showed wear of approximately ¼ inch on the face opposite the pipe. Despite this loss of packing material, a pressure-tight seal was maintained throughout the test.

Rams of the test preventer were then removed, returned to the Houston shops, and installed in a preventer on the test block. Here, with the worn ram packing elements still in them, they easily held 3000 pounds casing pressure without sign of a leak. On a squeeze test, in which rams were closed under pressure with no pipe between them, sufficient resilient packing material remained, and was forced out between the packing retainer plates, to form a circle having an I.D. of 3⅝ inches in a normal bore of 4½ inches.

Operators who recognize the importance of keeping their drill pipe moving while circulating to kill an attempted blowout, should obtain full details of the new Cameron Type "SDA" Pressure Operated Blowout Preventer. They will glady be furnished on request.

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Gas Cap Spreads

EAST TEXAS EAST FLANK AREA IS HAVING FREE GAS TROUBLE

TYLER.

PUMPING areas along the east border of the East Texas field are experiencing mechanical difficulties due to shrinkage of the fluid level and appearance of free gas in wells that have sustained an abrupt drop in reservoir pressure in recent months. A few wells, originally capable of flowing or pumping their proration allowable within a comparatively brief period, have reached the stage whereby production is limited to a small volume of wet gas. These so-called gas cap areas are restricted to leases overlying extremely thin, or broken sections of the Woodbine sand zone, and may extend the full length of the extreme east flank of the long structure.

Formation of a gas cap has been noted for several months near the south line of the Juan Ximinez Survey, Joiner area, and a similar condition has appeared in the I. G. Parker Survey, a densely drilled area adjoining on the north. Closely spaced wells on leases reduced to the stripper-well stage on the east side of the Kilgore townsite have likewise suffered a loss in the fluid volume and a corresponding increase in the gas-oil ratio.

Normal fluid level for pumping wells on the east border of the field is approximately 1100 feet. Receding reservoir pressure has been accompanied by a sharp reduction in the column of fluid and the release of gas held in solution by the oil while the bottom-hole pressure remained above 740 pounds per square inch. Engineers have determined that the gas begins to escape solution at the above pressure, so the appearance of free gas in areas that have slumped below the critical pressure level is a normal development that was forecasted in a report on the physical characteristics of the field prepared in 1933 by B. E. Lindsly, engineer for the United States Bureau of Mines.

A few leases in the south portion of the Ximinez Survey have declined in bottom-hole pressure to the 600-pound level. Pumping wells on such properties have built up casing pressure as high as 550 pounds per square inch. Owners have found it necessary to replace their original 150-pound test gate valves with fittings capable of withstanding higher pressures as a safety measure for field labor, and also to prevent wells from blowing off connections.

Forewarning of the arrival of the gas cap period on a stripper-well lease is given by increased casing pressure. As the pressure climbs the pumping equipment becomes gas locked, and will not lift oil to the surface until the pressure on the casing is released to about 300 pounds per square inch. Some revenue is derived from this gas by properties connected with gathering systems of the natural gasoline plants, as the production is diverted from the casing to the flow line.

Due to the shrinkage in the column of fluid, numerous pumping wells formerly operated with the working barrel installed near the 3000-3100-foot level will not make their 20-barrel allowable. This has been overcome somewhat by lowering the working barrel to the top of the sand.

Conservation rules of the Commission limits the gas/oil ratio of wells in the East Texas field to 500 cubic feet per barrel. In order to avoid running afoul this law some of the companies are experimenting with gas bleeders that have proved successful in curtailing gas oil ratios in other areas.

Co-operative gas repressuring units may be brought into play in the gas cap areas to restore the reservoir pressure to a level that will permit recovery of the oil remaining in the sand. Engineers are convinced that the sand has not been drained to the extent that commercial production is no longer attainable in areas yielding mostly gas. Gas is available in the field for pressure work, as the natural gasoline plants engaged in processing casinghead gas are handling in excess of 100,000,000 cubic feet daily. This residue is burned through flares, except for that returned to leases for fuel and a small volume used for domestic purposes.

East edge leases are not benefited by the movement of water that is having a tendency to maintain high pressure along the west and northwest flank of the structure. The water table is found at an average sub-sea depth of 3320 feet, while production along the east rim of the structure ranges from 3100 to 3200 feet below sea level. With few exceptions, wells within the zone driving pressure through the advance of the water table will continue to flow until from 25 to 50 percent of the production is water. Water intrusion has been feared by operators more so than the possibilities of leases within and adjacent to the known water areas during the early stages of development to avoid the inevitable water disposal problem but retained their east side holdings. Water encroachment is developing into a major problem. But it does not carry as great a threat to production life of the affected areas as the formation of gas cap zones along the east edge of the field.

Gas Control Bill

MEASURE INTRODUCED THAT WOULD REGULATE INDUSTRY

FEDERAL regulation of the natural gas industry is sought in a bill introduced in the House of Representatives March 6 by Congressman Lea of California, putting into effect recommendations made by the Federal Power Commission and the Federal Trade Commission in reports they have submitted on the subject. Control of the industry would be vested in the Federal Power Commission.

It was explained by Representative Lea that the measure is strictly one of regulation and attempts to avoid any effort to exercise what is regarded as doubtful constitutional authority. It is confined to the transportation of natural gas in interstate commerce, and does not cover production, local distribution, or sale for industrial use only.

The measure recognizes state compacts as a probable approach to the questions of conservation and proration, and provides that if two or more states propose an agreement for these purposes the commission is to make a report to Congress with recommendations for any legislation that may be necessary to carry out such compact.

Most of the regulatory provisions, he explained, follow those adopted in utilities regulation and require all rates and charges in connection with the transportation and sale of natural gas are to be "just and reasonable," and subject to regulation by the commission. Undue preferences in rates and services as between localities and classes of services are prohibited, and provision is made for hearings by the commission, with a right of court review.

The bill embodies requirements as to accounting and gives the commission authority to regulate the keeping of depreciation records. Limitations are imposed on dealings by officers of natural gas companies in the securities of their companies and interlocking directorates, are prohibited except as approved by the commission.

What You've Been Looking For

FOR several years there has been a consistent demand for a table showing the fields of the Gulf Coast country, their proven acreage by fields, number of producing wells, recovery to date, estimated ultimate recovery, and estimated amount per field yet to be recovered —reserves.

This information, in special tabular form, on all of the producing fields of the Texas and Louisiana Gulf Coast will be one—only one—of the many valuable features of the Gulf Coast Engineering and Development issue of THE OIL WEEKLY to be published March 16.

MEN IN THE INDUSTRY'S NEWS

JOSEPH RUSSELL, assistant to W. B. Pyron, vice president of Gulf Oil Corporation, has returned to his headquarters in Houston after a 10-day trip to Tampico, Mexico, where he visited the properties of Mexican Gulf Oil Company.

C. D. WATSON, chief engineer for Carter Oil Company, has returned to company headquarters in Tulsa, after a trip into South Texas.

CLYDE H. ALEXANDER, president of McCreslenn Oil Company, Bartlesville, Oklahoma, and Mrs. Alexander are in Florida on vacation. Alexander formerly was vice president of Phillips Petroleum Company.

JAMES SIMPSON, western Kansas field man for Phillips Petroleum Company, has resigned to become associated with Youree-Simpson Drilling Company, Wichita, Kansas.

W. L. STRATTON, director of production for Standard Oil Company of Louisiana, for the past 10 years resigned effective March 1. Stratton has been a prominent figure in the oil industry in Shreveport and the Southwest for the past 13 years. Upon completing his college education at Princeton University, he was connected with several utility concerns in New York before joining Standard Oil Company. Last year he was elected vice president of the Louisiana-Arkansas division of the Mid-Continent Oil & Gas Association.

HAROLD C. BISHOP, independent oil operator and former New York banker, was in Houston last week inspecting his holdings in the district.

W. E. (TOMMY) THOMPSON, land man and manager of the Tide Water Oil Company's district office at Palestine, Texas, has resigned after being with the company during the past eight years. He will operate independently in East Texas.

HARVEY G. KINGREY, production foreman of Huasteca Petroleum Company at Tancoco, Veracruz, Mexico, is in the United States on a brief visit.

VICTOR OPPENHEIM, petroleum geologist and engineer formerly of the United States, is expected to complete his exploratory geological studies in the border region of Brazil and Peru, in the upper Amazon Valley, in time to return to Rio de Janeiro in March. Thus far the survey has taken five months.

HOWARD VAN ZANDT, for the past several years connected with the Texas Railroad Commission as a chief engineer, has resigned and accepted a position in the land and scouting departments of Skelly Oil Company. Van Zandt served the railroad commission in the East Texas and Conroe fields, and more recently has been chief engineer for the commission in the Gulf Coast district. Van Zandt at one time was a drilling contractor and later was with McCamey Oil Company.

A. J. CALLOWAY, vice president of Shell Petroleum Corporation, recently transferred from general headquarters in St. Louis to Oklahoma headquarters in Tulsa, became vice president in charge of the Kansas-Oklahoma-Texas Panhandle division of Shell Petroleum Corporation on March 1. He succeeds George S. Rollin, who resigned effective that date to become an independent operator.

CLAREL B. MAPES, general secretary of the Mid-Continent Oil & Gas Association, has returned to Tulsa after conferring with association officials in Shreveport, New Orleans and Dallas.

HARRY DUNCAN, independent operator of Duncan, Oklahoma, has recovered from an accident which has incapacitated him since last October. He received serious injuries in the collapse of a derrick.

J. W. BRADBURY, general agent of Mexican Gulf Oil Company at Tampico, Mexico, was in Houston recently on a brief business trip.

W. P. LASETER, representative of Oil Well Supply Company at Tampico, Mexico, is making a business trip to the United States.

TOM R. WADE, field superintendent for the joint properties of Tide Water Oil Company and Seaboard Oil Corporation in the Cayuga and Long Lake fields with headquarters at Palestine, Texas, has been discharged from the hospital after receiving treatment for injuries sustained February 25, in an auto mishap near Cayuga.

L. E. SLOAN, district superintendent for Stanolind Oil & Gas Company in West Texas and New Mexico; J. E. Wooton, district engineer; and their office personnel have been transferred from Midland, Texas, to Fort Worth, according to A. M. McCorkle, vice-president in charge of operations in the above two states.

J. O. HARPER, former plant manager for Houston Natural Gas Company at Alice, Texas, has been engaged by Pure Oil Company to scout the Rodessa field and nearby wildcat areas in North Louisiana and Southern Arkansas, with headquarters at Shreveport. The latter territory is under the jurisdiction of the company's district office at Fort Worth.

C. L. QUICK, general superintendent for Midco Oil Corporation, was struck in the eye with a golf ball early in the week and painfully, although not seriously injured. Three stitches were required to close the wound.

J. C. DENTEN, general counsel for Mid-Continent Petroleum Corporation, has been named chairman and W. G. Skelly, president of Skelly Oil Company, is vice chairman of the oil activities department of the Tulsa Chamber of Commerce.

JIMMY BURKE, veteran scout for Gulf Oil Corporation (Gypsy), has been transferred to Holdenville which is to be the headquarters of a new scouting district.

E. L. MOREND, pipe line superintendent of Mexican Gulf Oil Company, has returned to Tampico after a brief trip to Houston.

DJEVAD EYOUB, petroleum engineer and geologist for the past few years connected with the Turkish government's campaign of exploration in the region of Mardin, Turkey, has been placed in charge of petroleum exploration for that nation. Eyoub is well known in the United States, having spent considerable time studying oil field conditions and technique in this country.

W. W. FLEMING, president of Marathon Oil Company, is spending a month out of Tulsa on a trip to New Orleans, Vera Cruz and Mexico City.

DIED:

J. S. FOLLETT, 86 years old, selected as "The Grand Old Man of the Oil Industry" at the last International Petroleum Exposition in May, 1934, died on Sunday, March 1, at the home of a daughter, in Tulsa. He was born at Warren, Pennsylvania, entered the oil industry as a boy at Oil Creek and followed the fields of the Allegheny district for many years. He came to Tulsa in 1921 after having developed production of his own at Petrolia, Pennsylvania, and Marietta, Ohio.

LAWRENCE THURMAN, 39, district superintendent for Amerada Petroleum Corporation in West Texas and New Mexico, died February 21 at a Fort Worth hospital. He was first stricken last fall, and apparently was on the mend when transferred by the company from Midland to Pearsall, Texas, in November to assume light duties while recuperating. Survivors include his wife and four children.

GEORGE MABRY SEARY, 53, of Dallas, Texas, died March 2. He was a director of General Crude Oil Company of Houston in addition to other business connections.

A. S. M. E.

DALLAS.

SEVERAL petroleum division meetings, as well as a session of oil and gas power division, will be included in the program of the semi-annual meeting of the American Society of Mechanical Engineers scheduled in Dallas, Texas, June 17-20, during the Texas Centennial Exposition, according to E. W. Burbank, chairman of the North Texas division of the society. Further details may be obtained from Burbank at 1515 Santa Fe Building, Dallas.

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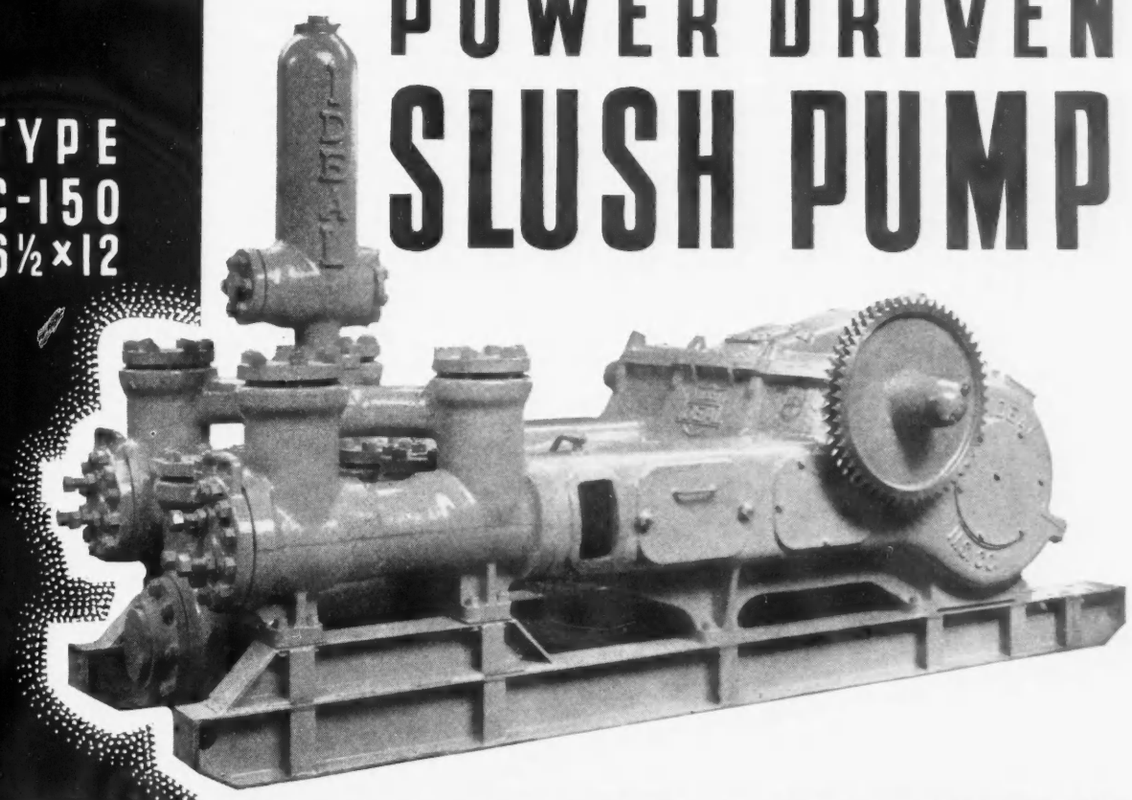

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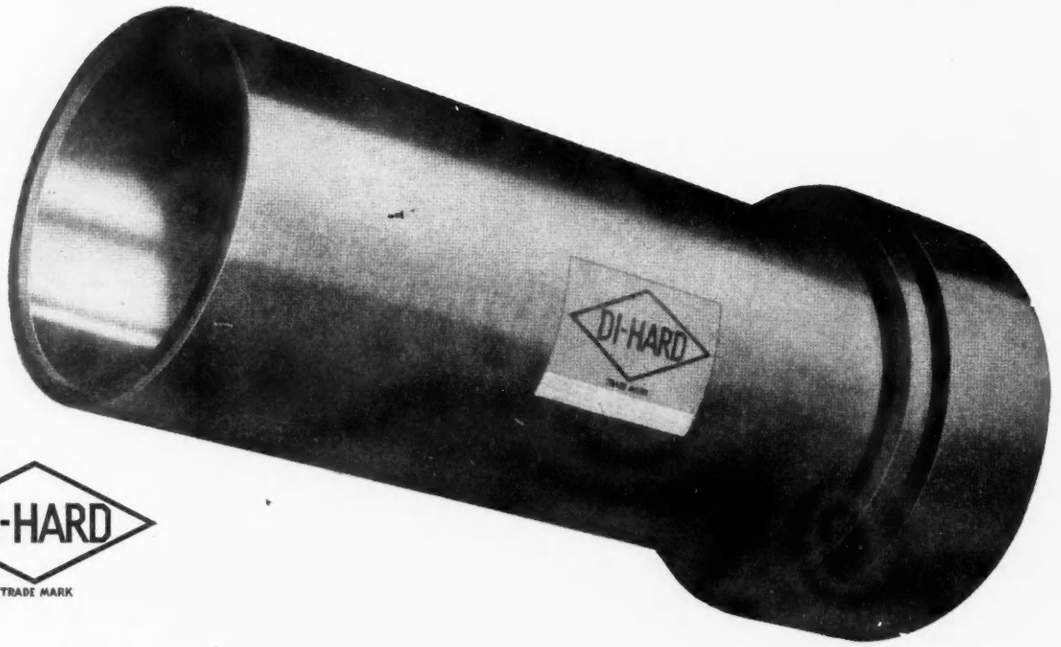

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THIS is the first of a series of articles on drilling muds that has been prepared by the author for publication in this magazine. Other papers will appear in early issues.

GEOLOGY, CHEMISTRY AND PETROLEUM ENGINEERING PLAY IMPORTANT PARTS IN

Drilling Mud Control

By M. T. HALBOUTY,
Chief Geologist and Petroleum Engineer,
Glenn H. McCarthy, Inc., Houston, Texas

THE object of this article is to refer to those important theoretical and practical factors governing the control of mud fluids in any drilled hole regardless of whether or not difficulty is encountered in drilling. There are so many preliminary precautions that have to be taken into consideration before the spudding-in of a well in regard to the mud fluid that the factors of such precautions will be consequently dealt with herein.

Supervisor Important

Primarily, operators are interested in who should take charge of the mud work involved on the wells to be drilled. This item in mud control is the most important, as the failure or success of the hole may depend entirely on the controlling and supervising factor. It is now common practice to put either a petroleum engineer or chemical engineer in charge of mud control, and by all means, such an engineer should be a graduate engineer with thorough knowledge of the higher mathematics. An engineer that is quick with figures is a boon in the field. These engineers should work in conjunction with their company geologist in studying every geological condition and formation that the drill will penetrate in the well. Geological information is extremely important and the engineer should attempt to attain every possible geological factor to be involved in formation conditions. As a brief summary of conditions, let us observe just why geological information is so necessary in the treatment of muds:

The ultimate satisfactory performance of a drilling fluid is dependent upon its ability to meet definite basic requirements. These requirements are concerned with the following functions:

1. To carry cuttings from the hole as drilling is progressed.
2. To settle cuttings from the mud as it reaches the surface.
3. To prevent the cuttings from settling in the hole after circulation is interrupted.
4. To wall the holes in such a manner as to build an impervious wall which in turn prevents caving of the formation and loss of fluid in porous formations.
5. To balance formation pressures by the weight of the mud so as to prevent the entrance of gas, oil and water into the hole.

Chemical Treatment Growing

Now, drilling fluids are chemically treated to overcome the following problems commonly encountered in the drilling of an oil or gas well: excessive settling of mud; wear of equipment; stuck drill stem; crooked holes; caving of formations; bridging of formations; loss of circulation; balling of the bit; heaving shale; water flows, and gas blowouts.

It is logical to presume that under certain accepted conditions and depths, the formations encountered can give considerable trouble in the successful drilling or completion of the well, if the mud is not in its proper condition to meet those conditions with depth. It is a usual practice with most operators to withhold the treatment of the drilling fluids until the troubled condition has been encountered. In the majority of the cases such a practice is disastrous as the serious results occur before aid is obtainable, or in the common case, the trouble has become so "troublesome" that mud treatment is useless and a waste of time and money. Consequently, the probable conditions should be anticipated and treatment of the mud accordingly taken into consideration. Therefore, it is wholly ad-

vantageous to study in detail the geological section to be drilled and by accumulated correlative data from wells drilled in a somewhat relative geological section the formation that may or may not give trouble while drilling.

Geology Is Great Aid

The formations encountered in the geologic section have definite chemical characteristics which may or may not be used in the "making" of mud as drilling is advanced through them. The geologist by his knowledge of sedimentation can readily conclude whether or not certain zones would aid or hinder the control of the mud. As shales may be classified on the basis of their constituents as arenaceous, argillareous, siliceous, ferruginous, gypsiferous, carbonaceous, bituminous, glauconitic, and bentonitic, it is therefore logical that each particular kind will transmit into the fluid its basic chemical constituent which may or may not be desirable. Consequently, geological knowledge of the basic sedimentative matrix of each zonal or formational break is decidedly important, as tests could be then made on the mud while drilling for indications of the transmittal of certain formational chemicals which can be treated according to their importance in the maintaining of a good mud. As certain breaks carry their definite chemical composition so will the mud chemical characteristic change, and if physical treatment of the mud does not raise the fluid to the requirements needed for safe drilling, then it can easily be treated by the addition of other chemicals mixed on the drilling grounds which will react favorably with the chemicals already present in the mud to give the required reaction and produce a definite function. Each stratigraphic break should be recorded by the engineer in charge and the chemical and physical characteristic changes in the mud should also be noted, as where a change in geologic age is encountered, then it is also safe to conclude that the chemical as well as physical characteristic of the mud will also change. With such information available from the geologist and the zonal determinations which can be made by micro-paleontology, the engineer could then know just at what depth to expect certain shale bodies, etc., and when and how to begin treating the mud to combat such probable trouble. It is not a difficult geological task to determine the approximate depth at which, for instance, heaving shale is expected in wells, and in view of this fact, it is a much more simple task to have a mud in its proper condition above the shale and then penetrate into it than to leave the mud alone until trouble begins. High pressure gas and oil sands, cavities, salt, etc., all can be handled successfully in being prepared for the worst and overcoming it easily than to have the worst to happen suddenly and disastrously. Therefore, in conclusion, as to the supervisor of the mud control, it is best that he be a graduate petroleum engineer, with a very good knowledge of chemistry and geology, and if only a petroleum engineer is in charge without the knowledge of chemistry and geology, then, he should consult constantly his company's chemists and geologists for the necessary information required in assisting him to maintain a mud to meet all of the troubled conditions that may arise.

Chemical treatment of rotary drilling muds, such as pictured below, is increasing in use, and demands additional attention from the supervisor of such work.

RECENT RESEARCH STUDIES SHOW

Service of Rig Chains and Lines

MAY BE IMPROVED BY OPERATORS

By BRAD MILLS, Associate Editor

THE performance and service life of drilling equipment receiving the most severe wear and abuse are being studied by several Gulf Coast operators who have not been satisfied with results obtained from a number of important items. Observation and research have been directed chiefly toward determining the reasons for untimely failures, and not toward development of new designs.

The research work involves an analysis of several phases of operation that have been overlooked in the past. These companies have found that excessive wear and failures often should be attributed to causes that can be eliminated. A study of the service life of several equipment items also has proved that rapid wear and breakage should not be accepted as an expense that can not be reduced.

When any piece of equipment fails, there must be some reason or reasons for its failure. Even the equipment that gives unusual service has its limitations, and it has not been unusual to gather valuable data from the service records of equipment that has served long past its time. By contrasting and analyzing the records of equipment items that have given maximum and minimum service, the reasons for both the short and long service life usually become apparent.

Several Gulf Coast operators, particularly Shell Petroleum Corporation and Humble Oil & Refining Company, have been attempting to increase the service life of drilling equipment items that receive the most severe wear. Considerable time has been given to an analysis of the performance of rotary chain, drilling lines and smaller equipment items that suffer both from neglect and operation beyond their safe capacities. This work has developed several interesting facts that probably will change several practices that have been accepted as efficient in the past. The basis for these changes will be an improved operating technique and not necessarily a radical change in design. Abuse has been a greater factor in equipment failure than is realized by the average operator.

Small lubricating oil tank used to spray oil on rotary chains and other equipment in motion or difficult to reach. Air pressure is used.

Lubrication Helps Chain Service

In studying the service life of rotary drilling chain, the causes of failure are not always easy to determine. To conclude that a chain fails simply because it has experienced severe usage often fails to reach the bottom of the trouble that caused failure. One Gulf Coast company recently discovered largely through accident that one chain after another had been galling and breaking from lack of lubrication, and not from high table speeds and rapid in-and-out operations, as had been suspected. The entire drilling outfit had been used as an experimental project, and the reaction of various equipment items to high rotary speeds was studied. The strength of the chain used indicated that the work being done was not enough to wear out a chain in a few days.

Table speeds up to 250 revolutions per minute were attained while drilling a well in the Roanoke, Louisiana, field, while the speed in running in

and out with the drill pipe was also expected to test the performance of rotary chain and other equipment. It was during these very fast drilling operations that the main driving chains were worn out every four days.

The effect of high draw works speed on drilling chain was studied from every angle, and several recommendations made. The chain was lubricated every 30 minutes, but when the lubricator broke down it was discovered through short test runs that the chain should have been lubricated every 15 minutes. During subsequent drilling operations, full lubrication every 15 minutes practically eliminated the excessive wear. During light drilling operations, lubrication every 30 minutes might have been adequate, but during severe in-and-out operations, experiments proved that the chain required lubrication every 15 minutes to prevent galling.

The discovery that lack of lubrication had caused much of the trouble was followed by tests to determine the best lubricating method. It was found that oil commonly used for lubricating the chain was far too heavy for the purpose. The slight tolerance did not allow the heavy oil to lubricate the inside working parts of the chain. Even the small amount of oil that did its work was thrown and worn from the inside of the chain in less than half of the 30 minutes originally allowed between lubrication periods. Several of the chains that failed looked new from the outside, but were literally burned up on the inside from lack of lubrication.

Tests in the Roanoke field proved that the heavy rotary drilling chain of today is capable of a much longer service life than it usually gives. It is possible that the chain of the future may run in oil, since the enclosed chains in certain types of small drilling outfits seldom give trouble.

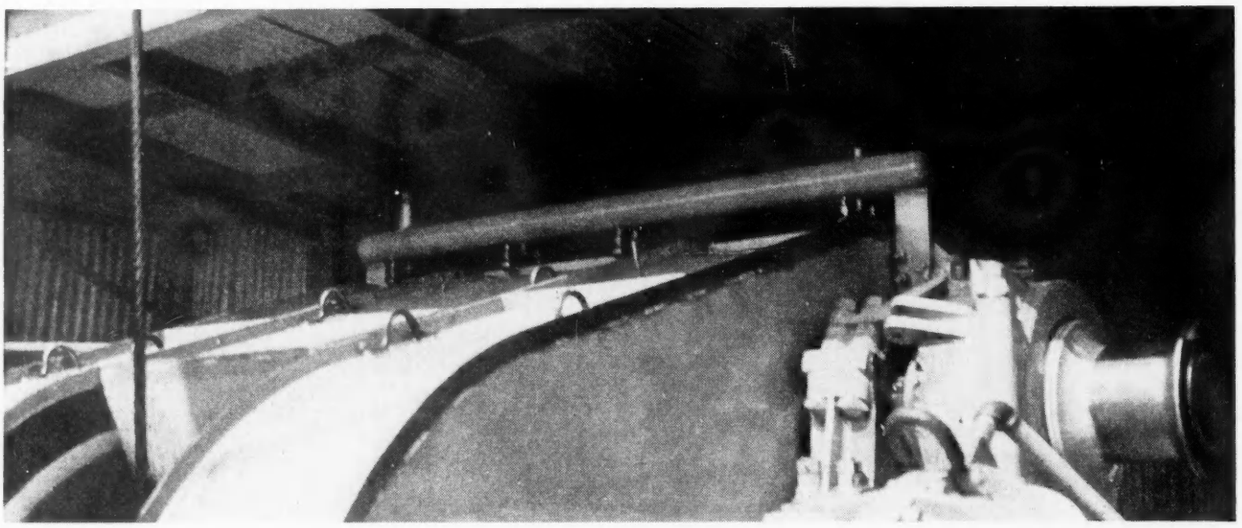
Two Gulf Coast companies are using ordinary lubricators to provide a steady flow of oil to the rotary chain. A light grade of oil is used in this adaptation.

A new type chain lubricator has been installed in the Dickinson, Texas, field. It consists of an eight-foot section of four-inch pipe that is placed horizontally across the top of the draw works. The pipe section serves as a simple reservoir for the light lubricating oil that is used, with the elevation affording a head or pressure that sends the oil to the various chain installations. Four drops or openings are provided by short half-inch nipples welded to the pipe section. The 3/8 x 3/8 x ½ tees provide eight outlets for the oil, but combinations of four, five, six, seven or eight may be used. Ordinary sight-feed lubricators are placed near the opening of each 3/8-inch tee, and adjustment of the flow of oil to each point on the chain is a simple matter. The oil line leading from the sight feed to the chain at various points consists of eighth-inch copper tubing. This tubing drops down to a series of points just above the section of chain to be lubricated, and the oil drops onto the chain at whatever rate is required. A very light lubricating oil is used, and the rate of feed varies from 30 to 60 drops per minute, depending on the severity of operations. The four-inch by eight-foot pipe section is attached to the heavy draw works as a permanent part of the installation. The lubricator has proved satisfactory in drilling at Dickinson, one of the deepest fields along the Texas Gulf Coast.

Several companies are working toward improved lubrication of rotary chain, and since attention has been focused on this phase of maintenance the service life of chain used on deep wells has materially increased. In discarding a large number of broken chains that looked new on the outside, operators finally realized that much of the heavy oil poured on the chain failed to reach the pins and bushings.

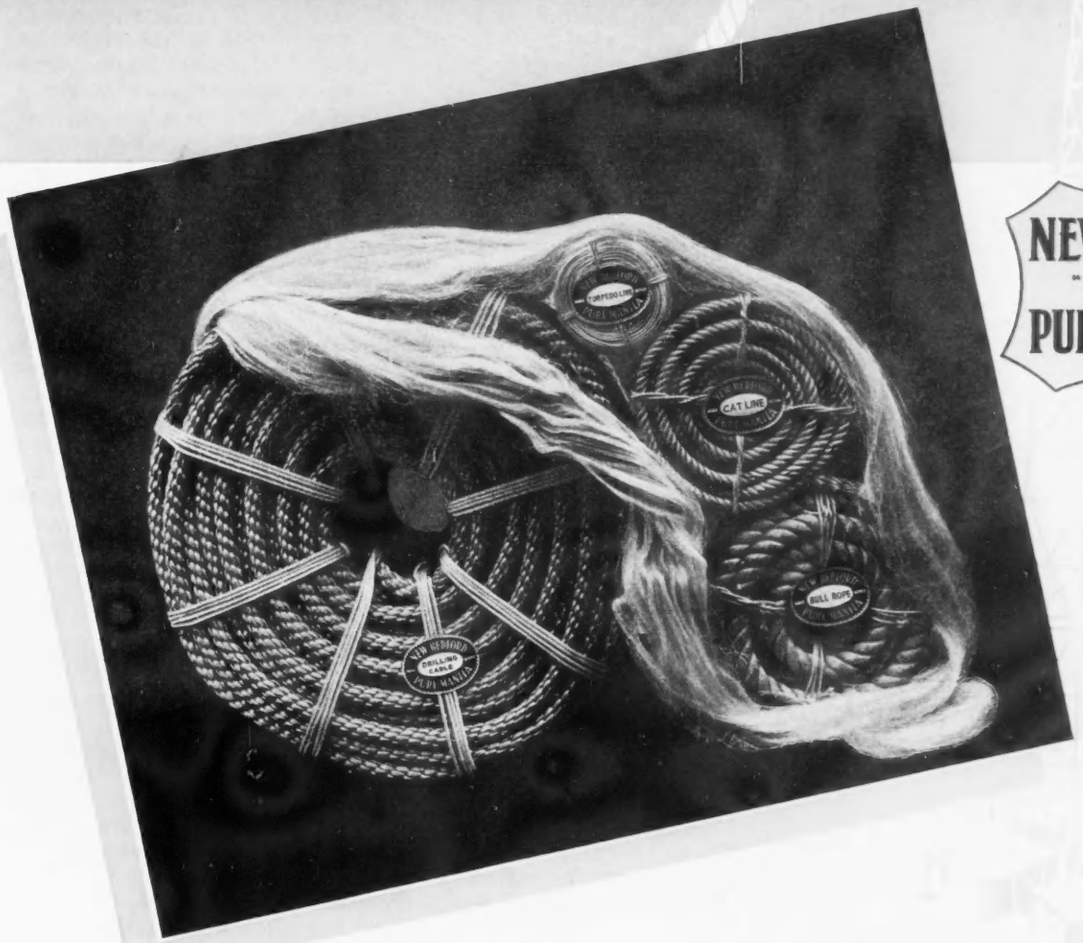
More Lines Improve Efficiency

Shell Petroleum Corporation has done some valuable research work in connection with the use of drilling lines. The effect of engine and draw works speeds on drilling line performance has been studied, and various line combinations considered. Time, speed, and service life, and the relationship of each



A new type chain lubricator that consists chiefly of a section of four-inch pipe, sight feeds and small copper tubing. The pipe section is attached to the draw works.

HOLDING THEIR OWN



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A liberal line arrangement has increased the service life of casing lines in several fields.

to progress over a long period were analyzed from several angles.

This company was impressed with the ton-mile record established by one of its drilling crews and investigated the causes of the superior performance of drilling line. It developed that the drilling crew under observation was using an eight-line combination from the surface, instead of the six-line arrangement that was supposed to give greater speed in handling the drill pipe while drilling at nominal depths. Further investigation revealed that the eight-line combination when used in drilling the upper part of the hole gave an elapsed time that almost equalled that established by the six-line combination. The eight-line arrangement gave more than three times as many ton miles of service as the six-line combination.

The company has been attempting to determine whether the small saving in drilling line more than offsets any loss of time that could have been sustained through use of the slower eight-line combination. A study of well records indicates that the eight lines give better results in a number of ways than the six lines that seem to offer greater speed. Although the in-and-out speed was greater from a theoretical standpoint, the actual average time was very little faster than that shown by the eight-line arrangement. The man in the derrick experienced trouble in making the connection when working with the six-line combination, and tests proved that a slower and more uniform speed from top to bottom when lifting each drill-pipe stand gave a better time record in coming out and going into the hole than a high speed for four-fifths of the way up with the block, and a slowing down during the remaining 20 percent to allow the derrick man to make the connection.

A steady speed with the eight lnes at one location gave more than five times as many ton miles of service as the six-line combination at another location. On an actual cost basis, when calculated from whatever tangible evidence that was available, the saving in drilling line more than offset the very slight increase in drilling time that was shown by the six-line arrangement used in drilling the upper part of an offset well. When breakage and general wear on equipment were considered as factors it was indicated that the six-line combination offered little or no advantage over the slower and safer eight-line arrangement.

Determination of a safety factor that could be applied under various conditions has been attempted, and preliminary research has indicated that too much strain has been placed on drilling lines. Some time ago a safety factor of 5½ was recommended by a number of wire line manufacturers. More recently this factor has been increased to seven, but both manufacturers and users of drilling lines are not in agreement on the safety factor that should apply under various conditions. Shell Petroleum Corporation's research indicates that the maximum strain imposed on a drilling line should not exceed one-ninth of its breaking load. This safety factor of nine has resulted in an increased service life of wire lines, although in emergencies it may be necessary to impose a greater strain than one-ninth of the breaking load.

Drilling lines of today are built to give a much longer service life than they have been giving in actual service. Tests have shown that the lines are misused and abused in an effort to attain a greater drilling speed. Operators who give thought to the correct use of drilling lines will be repaid with a much longer service life. Overtaxing a drilling line by 10 percent may reduce the service life by 50 percent.

Hesitancy to string a large number of lines may save time for a while, but as the load approaches the maximum that can be carried safely, wear on the line becomes much more pronounced. Failures often occur immediately before the point at which more lines are to be added. It has been fairly well determined that from 4400 to 4600 feet of six-inch drill is the maximum load that can be carried with a 1-1/8-inch drilling line, when six lines and a safety factor of only 5½ are used. The use of eight lines to such a depth would give a more nearly correct safety factor. The net result of the tests was that an eight-line combination with a high safety factor gave a much greater ton-mile service than the six-line arrangement.

IRREGULAR TERRAIN AND SOIL CONDITIONS AMONG CONSTRUCTION PROBLEMS FOUND IN

Laying Michigan Line

By NORMAN X. LYON

A HIGHLY irregular terrain and equally irregular subsurface soil conditions offered the major problem in the construction of a 140-mile eight-inch oil pipe line for Michigan-Toledo Pipe Line Company, first interstate crude oil carrier line to be constructed as an outlet for Michigan crude.

The pipe line was constructed from October 1 to January 29 and placed in operation on February 15 with initial deliveries from the Crystal, Michigan, station to the Toledo, Ohio, terminal of 250 barrels an hour. Without booster stations the line has a capacity of 12,000 barrels every 24 hours, but due to a present shortage in Michigan crude production probably not more than 6000 barrels will be handled daily during the remainder of the winter months.

Michigan-Toledo Pipeline Company, incorporated as a common carrier in 1935, is a joint company organized by Simrall Pipe Line Corporation of Mt. Pleasant and Standard Oil Company of Ohio. Simrall originally was organized in the old Muskegon field in 1929, but a year later withdrew from that field and moved into the Central Michigan district and was reorganized as an affiliate of Roosevelt Refining Company, refiners and producers with offices in Mt. Pleasant. C. L. Maguire heads the Roosevelt as well as the Simrall. The company operates a six-inch line from Mt. Pleasant to the Crystal field, a four-inch line into the Porter and Greendale and Vernon-Denver areas from their Mt. Pleasant terminal. Gathering systems also are operated in the West Branch and Beaverton districts, however, shipments are made via railroad from the latter two areas.

Line Is of Great Importance

Joining with Simrall to organize Michigan-Toledo Pipe Line Company and to construct the 140-mile line from Crystal to Toledo, marked Standard's first active participation as a crude oil carrier in Michigan. Standard to date has not played an active part in Michigan development but has been a purchaser of a considerable volume of Michigan crude at Indiana and Ohio plants, shipments having been made by tank car.

Construction of the pipe line linking Michigan with a direct connection with the Toledo crude market is regarded as one of the most significant steps in the state's 11-year oil development history. Heretofore, the Toledo market has been more or less isolated to Michigan production because of freight differentials. It has been possible and economical for Toledo markets and others in the Ohio-Indiana district to purchase from the Mid-Continent shipping via pipe line as against Michigan production via railroad.

Virtually the only large shipments that have been made into Toledo in the past from Michigan on a

regular schedule were by Pure Transportation Company, which operates a six-inch main from the Greendale station to Bay City, Michigan, where shipments are made into Toledo, Canada and other points via lake tankers. Pure's Toledo market includes not only their own Toledo refinery but others such as Sun and Standard in the past. Pure with its own production, about 75 percent of total runs out state, has and continues to be able to compete on the Toledo market with this setup against Mid-Continent pipe line crude.

Pure has maintained a market averaging from 12,000 to 18,000 barrels a day into the Ohio district and it is believed that with the new Michigan-Toledo pipe line in service that a forward step will have been taken in farther stabilizing the Michigan market by increasing it. Due to the fact that the Ohio area was more or less closed to other carriers outside of Pure the past has witnessed numerous periods of ups and downs resulting in sagging prices and proration.

It likewise is a matter of speculation as to what effect this new major carrier will have in Michigan in the event reserves and daily recoverable production is not boosted within the next six months or more. The line was built with an initial capacity of 12,000 barrels a day, and started in the fall of 1935 when state total production was averaging between 45,000 and 50,000 barrels per day. However, since November production has gradually declined to reach as low as 33,000 barrels per day, and leaving not more than 5000 barrels available for shipments through the new line.

Two possibilities have been given much unofficial consideration including the possibility of a price war to convert independent well connections to this market. This would probably prove a fatal blow to most of the independent refining plants which have sprung up in the state the past two years. As now divided Pure controls more than 40 percent of the daily production and if enough was diverted for the line to approach capacity state refining plants would be without a supply.

The second possibility offered has been that a deal may be worked out in which Pure will move its Toledo committments through the line, although at the present time this seems remote due to various reasons indicating the two would not easily get together.

Construction Conditions

The general construction contract for the 140-mile line was let to Franklin Tool Company of Mt. Pleasant. Ten miles on the south end, nearly all within the Toledo city limits, was let to Coolsaet Brothers of Dearborn, Michigan. The construction contract was awarded on October 14, 1935, and on November 1 actual construction was started.

The right of way extends southeast from the Crystal station cross-country striking the Michigan-Ohio line about 11 miles from the Toledo terminal, located at the Standard of Ohio refinery.

J. C. Douding of Flint was awarded the pipe stringing contract, using trucks with rear-end hoists and winches and tractors to move pipe from railroad points along the right of way. Pipe was shipped by railroad to Carson City, St. Johns, Lansing, Okemos, Chelsea, Stockbridge, Bridgewater, Dundee and Toledo, so that long hauls were eliminated.

A new seamless 24.69-pound, 8⅝-inch O.D. pipe was used.

It was not necessary to establish construction camps for employes with either cities or fair sized towns located at intervals of not more than 15 miles between any two working points. Field offices were maintained in Mt. Pleasant, St. Johns, Lansing, Chelsea, Milan, etc., as work progressed.

About 250 men were employed on an average, although the peak was over 500 at one time. Common labor was plentiful and ordinarily hired at different points along the line.

Equipment used on the job included four ditchers, 10 tractors with booms, two backfillers and two bulldozers, two steam shovels and numerous trucks.

Gene Harper, head of Franklin Tool Company, who was in active and general charge of all construction, split the construction work into two gangs, one starting south from Crystal and another north from Toledo. Actual construction started on November 1, 1935, and was completed on January 29, 1936, a total of 60 working days.

A special soil survey was made over the entire route with tests made at intervals of one to two miles. This proved important revealing a heavy sulphur condition on the south end. As a result factory coated and wrapped pipe was used for 30 miles out of Toledo north, besides on all river and railroad crossings. It also turned up many bad sand, clay and boulder districts which were prepared for well ahead of time.

Using two machine ditchers in each crew. A 32- to 36-inch ditch was dug, 18 inches wide, all with the machines with exception of about 20 miles which included some of the worst marshy and bog lands. The ditchers could average between ¾ and a mile every 24 hours each. One ditcher was lost in a big marsh near Lansing, requiring four days work before it was lifted out of the swamp. The time was regarded as exceptional in view of the uneven terrain and the fact that ditchers had to frequently cut in and out to cross highways.

The two firing lines averaged from 2¼ to 2½ miles per day, each crew including four welders and two tackers, with a welder averaging from 40 to 45 welds per day. The pipe was in 45-foot lengths and ordinarily welded in five-joint sections although this varied widely depending on the territory. Using all new pipe and because it was welded almost as fast as laid in good speed was possible. During the last four weeks it was necessary for a clean up gang to remove snow and ice from the pipe, however.

Swamp and bog areas occurred on an average of two to the mile the entire route with two particularly bad swamps which had to be cut through. The Chalmers swamp east of Lansing was a four-mile cut and the Pleasant Lake swamp farther south a three-mile cut. Here weather conditions favored, as the ground had frozen nearly a foot so that the machine ditchers, welding, and laying equipment could be brought in. It was necessary even with "cat" treads, however, to build corduroy roads of brush and saplings in frequent cases to keep equipment from bogging down.

While there is a gradual elevation fall from Crystal to Toledo of 270 feet between the two points are repeated hills, ravine, and sharp rise and cut districts. Due to the uneven terrain it was necessary to spend more than ordinary time in fitting the pipe to the ditch. Virtually every mile of the right of way showed one or more sharp rises or dips requiring special bends.

The clay, sand and gravel districts were struck at

periodic intervals and frequently caused ditching troubles but outside of the bog lands the boulder-gravel areas were the biggest concern. Boulders which would weigh from a quarter to five tons frequently were struck. These had to be dynamited and then dug out by hand.

The weather forced the construction crews to lay idle from two to five day stretches in November when a heavy rain period occurred. This was followed by cold and snow which reached its peak in January. The last five miles of ditch had to be dynamited and broken with pavement busters before the ditchers could get through with about 18 inches of soil frozen solid. Drifted roads also delayed moving of equipment and sub-zero temperatures made field work difficult.

The right-of-way crosses six rivers and nine railroads and five trunk line highways besides innumerable county, state and township roads.

The biggest of the river crossing jobs was at the Maumme River in Ohio, where barges were used in trenching and in lowering the sections. Steam shovels and hand labor was used on the others. Only shallow trenches were necessary. River clamps weighing about 500 pounds each were used in sinking and holding the pipe down.

Railroad and trunk line highway crossings were bored by machine and hand.

Gate valves were set on each side of river and railroad crossings, and gates set in at Lansing and Chelsea in the event booster stations are cut in later. Thirty-nine valves were set in all.

C. G. "Satch" Daniels was in charge of the north end spread gang and Logan Ingram the south end. Nig Simms and Frank Hampton had charge of pipe set over and tie in gangs. Pat Mast was in general charge of both firing lines.

B. J. Davis of Standard Oil Company served as chief inspector on the construction job with Kansas Reed on the north end and Jap Mennis on the south end.

A. E. Butterfield, Mt. Pleasant attorney, was in general charge of right-of-way, who with his first assistant, Tommy Mast, and five helpers set a record in taking the 140 miles of right of way in 46 working days, including special county highway, state and railroad crossing permits.

The Crystal pumping station includes two natural gas fueled engines of the four-cycle, 240-horsepower type, gear connected with two duplex six-inch bore and 18-inch stroke pumps. The unit is capable of pumping 500 barrels of oil per hour against 750 pounds back pressure. No booster stations will be set in at the present time. Two 37,500-barrel floating-lid type storage tanks have been set up for storage at the Crystal station.

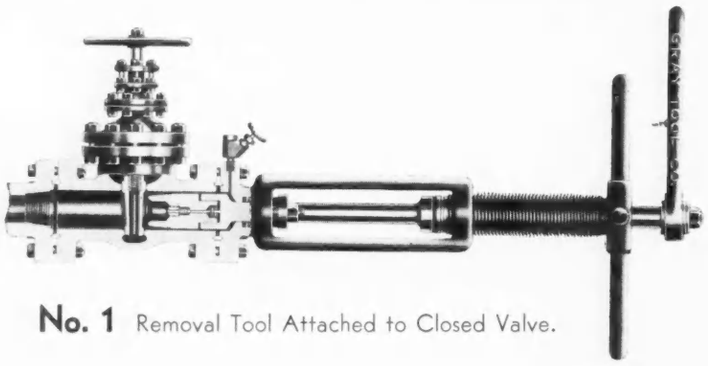
Del Hewitt, Simrall and Michigan-Toledo Pipeline superintendent was in charge of construction of the Crystal station.

The company has on its program the extension of the line north about 90 miles into the Ogemaw field district and also a 40-mile east spur to Trenton where the White Star Company's refinery is located. However, these additions are not planned immediately.

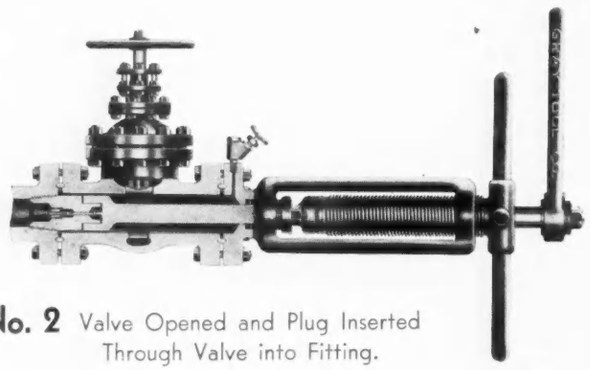
Construction scene, Michigan-Toledo Pipe Line Company's eight-inch line.

ANOTHER TRIUMPH *for* GRAY

STAGES IN THE REMOVAL OF A VALVE OR FITTING FROM ANY PART OF A CHRISTMAS TREE



No. 1 Removal Tool Attached to Closed Valve.



No. 2 Valve Opened and Plug Inserted Through Valve into Fitting.

No. 3 Valve Removed After Fitting Outlet is Plugged.

TO REPLACE VALVE, REVERSE PROCEDURE

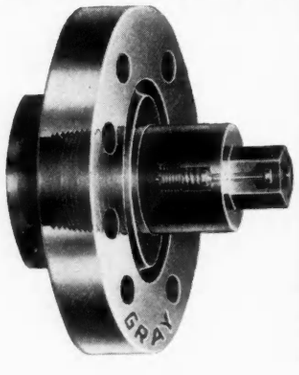
Patented No. 1,701,691
Other Patents Pending

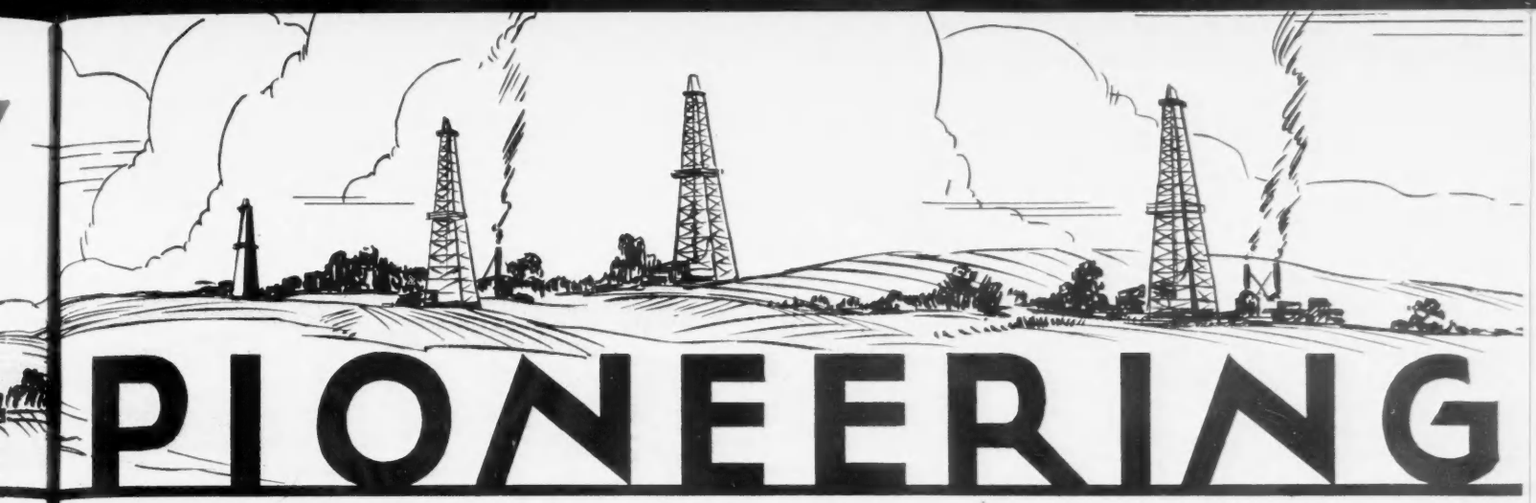
Now VALVE REPAIR

CONTROL and FLEXIBILITY PLUS ECONOMY

. . . at completion of well and during its entire life

1. Damaged or leaky valves or fittings may be replaced or repaired without killing the well.
2. Excess parts may be removed and used elsewhere.
3. Corroded working parts may be replaced safely and easily.
4. Obsolete valves or fittings may be replaced by improvements.
5. Increases flexibility of Christmas Tree.
6. Control of well is maintained during entire operation.
7. Simple mechanism—easily operated—used to remove or attach parts to Christmas Tree.
8. All connections may be tested before fitting is removed or after fitting is attached.
9. No undue stresses are imposed on the manifold while the operation is performed.
10. **Entire operation performed under balanced pressure to make operation easier and safer.**





PIONEERING

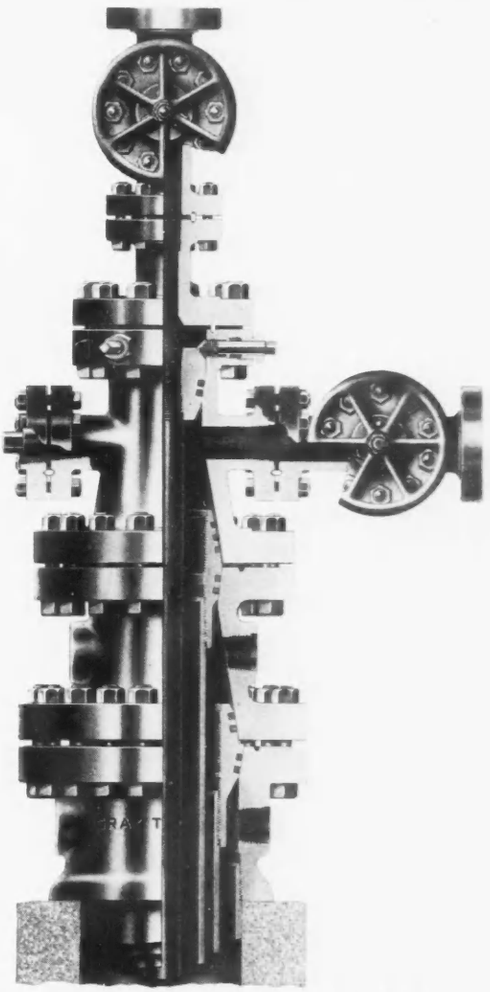
and POLICY *of* CONTINUOUS IMPROVEMENT

UNDER PRESSURE

★GRAY TUBING HEADS AND MANIFOLD PARTS NOW AVAILABLE ARRANGED FOR VALVE REPAIR.

★MAJOR OPERATORS, NOW USING THIS GRAY SYSTEM, HAVE ALREADY MADE SUBSTANTIAL SAVINGS AT THEIR WELL COMPLETIONS . . . and are set for saving money every year during the long life of their wells under modern operating conditions.

A GRAY REPRESENTATIVE will gladly explain how additional flexibility and economy are gained by using GRAY COORDINATED SYSTEMS OF CONTROL.



A. S. A. Tubing Head with All Outlets Arranged for VALVE REPAIR OR REMOVAL UNDER PRESSURE.

Patented No. 1,701,691

CLAIM 8: In combination with a nipple in attachment at one end with a pressure main, a removable plug in said nipple, and means for permitting equalization of the pressure at each side of said plug preliminary to removing the plug.

Other Patents Pending.

GRAY TOOL COMPANY

HOUSTON . . . TEXAS

Solutions of Hydrocarbon Gases in a Crude Oil

By B. H. SAGE, W. R. MENDENHALL and W. N. LACEY
California Institute of Technology, Pasadena, California

IN previous studies the viscosity of solutions of methane, ethane, propane, and *n*butane gases in a highly-refined hydrocarbon material, known as crystal oil, has been determined. It is the purpose of the present paper to report the results of similar studies when the same gases were dissolved in a crude oil. This work was a part of the investigation of the behavior of hydrocarbon mixtures being carried on as Research Project 37 of the American Petroleum Institute.

This is the third of a group of three papers, a part of the report of the American Petroleum Institute's Advisory Committee on Fundamental Research on Occurrence and Recovery of Petroleum and is reprinted from the Institute's Production Bulletin No. 216, Los Angeles Meeting, November, 1935, which has just now been released for general publication.

THE crude oil used in this study was a blended sample produced from several zones in the Santa Fe Springs field in California. The sample, which has been used in other studies,[1, 2, 5] was kindly furnished by the Shell Oil Company, Los Angeles, together with an analysis made in the following manner: Three liters of the sample was placed in an iron still (nine inches in diameter by 10 inches high) equipped with a two-inch diameter vertical pipe rising 4½ inches before the delivery or condenser tube branched off. Ice water and ice were used to cool the condenser tube. The crude was topped with fire alone until a still-head vapor temperature of 518°F. (270°C.) was reached. The distillation was then continued with the injection of steam until the residue in the retort had a Saybolt Furol viscosity of 120 seconds at 122°F. The combined distillate was then charged to a "Badger-type" distillation column, consisting of a three-liter electrically-heated pyrex distillation flask discharging vapors to a one-inch diameter fractionating column four feet long filled with glass beads nearly to the vapor outlet tube. The column was surrounded by an electrically-heated jacket. The overhead vapors passed to a glass spiral-tube condenser cooled with ice water. In this column the material was separated into gasoline, kerosene, and stove oil fractions, the latter being the residue in the flask. Each of these fractions was then subjected to ASTM Engler distillations. The results of these distillations and various determinations upon the original oil and the several fractions are summarized in Table 1.

The methane used was obtained from natural gas by fractional-condensation and charcoal-adsorption methods previously described[4] with the addition of a fractional condensation directly as solid at liquid-air temperature and a pressure of two inches of mercury, absolute, to aid in removal of nitrogen and similar impurities. The resulting material gave an analysis in terms of mol percentages as follows: 99.5 percent methane, 0.02 percent ethane, and less than 0.5 percent of nitrogen and similar gases. The ethane was prepared from a sample of crude ethane (approximately 90 percent ethane) by fractional-condensation and charcoal-adsorption methods. The material used contained 0.5 percent nitrogen and methane, 99.2 percent ethane, and 0.3 percent propane and higher hydrocarbons. The samples of propane and *n*butane were used as obtained from the Phillips Petroleum Company. Analyses of these two materials were furnished by that company. The former was 100.0 percent propane, while the *n*butane sample contained 0.18 percent *iso*butane, 99.14 percent *n*butane, and 0.68 percent *iso*pentane.

Apparatus and Methods

The apparatus used for the measurement of the viscosity of the saturated solutions has been described by sage and coworkers.[3, 6] The viscometer consisted of an inclined tube, filled with the solution to be investigated,

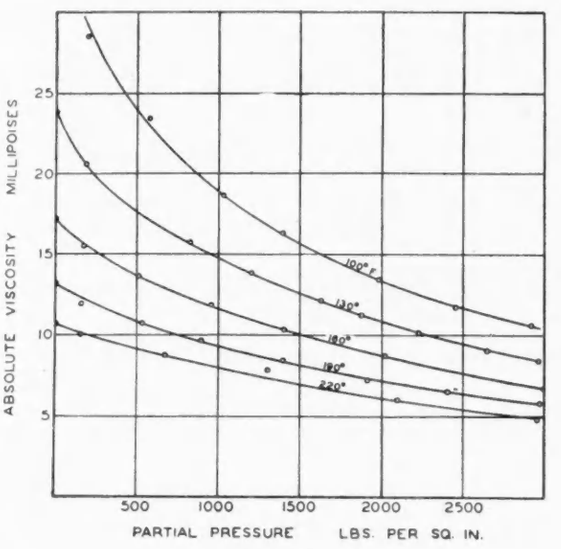


FIGURE 1

Experimental Results for Viscosity of the Methane Solutions.

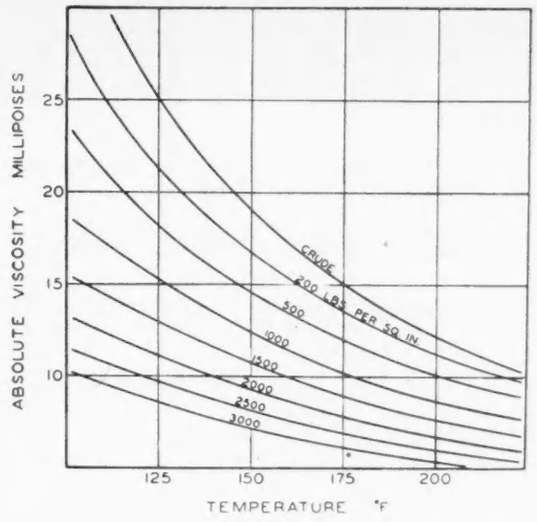


FIGURE 2
Viscosity of the Methane Solutions as Related to Temperature.

and a closely-fitting, spherical ball which was allowed to roll down the tube from one electrical contact to another. The roll time of the ball was determined by means of a chronograph. The temperature of the viscometer and contents was kept within 0.02°F. of the desired value in an oil thermostat bath. Equilibrium between gas and liquid phases was attained by mechanical agitation and re-circulation of the liquid through the apparatus. The equilibrium pressure in the apparatus was measured by means of fluid-pressure scales having sensitivities of 0.1 pound per square inch up to 300 pounds per square inch, and of one pound per square inch for higher pressures.

The sample of crude oil was placed in the apparatus, filling about two thirds of the total volume. On account of the volatility of the oil, it was not feasible to remove the residual air from the apparatus by evacuation. The reported pressures represent, therefore, the increase of pressure due to addition of gas. The gas was added in a succession of quantities, the system being brought to

TABLE 1
Analysis of Crude-Oil Sample

Gravity, 34.8 deg. API.
Water and sediment trace
Sulfur, 0.39 per cent by weight
Viscosity, Saybolt Universal, at 100 deg. F., 42 sec.; at 130 deg F., 39 sec.

	PRODUCTS				
	Gasoline	Kerosene	Stove Oil	Residuum	Loss
Percent of charge (dry)	37.37	6.83	18.20	36.20	1.40
Gravity, ° A.P.I.	53.2	38.6	33.3	17.3	....
Flash point (closed cup), ° F.	.....	182	230+	230+	....
Viscosity, Saybolt Universal, at 100° F., sec.	.....	.....	42	.....	....
Viscosity, Saybolt Furol, at 122° F., sec.	.....	.....	.....	120	....
Absolute viscosity (at 68° F.) centipoises	.....	2.16	.....	.....	....
Sulfur, percent by weight	0.047	0.125	0.33	0.79	....
Octane No., ASTM	59	.....	.....	.....	....
Pour point, ° F.	.....	.....	.....	85	....
Distillation Summary, in Degrees C.					
Initial boiling point	52	220	258	294	....
10-percemt point	88	223	272	.....	....
20-percent point	99	224	275	.....	....
30-percent point	110	225	278	.....	....
40-percent point	120	226	285	.....	....
50-percent point	130	227	290	.....	....
60-percent point	143	228	297	.....	....
70-percent point	156	229	307	.....	....
80-percent point	170	230	323	.....	....
90-percent point	185	233	345	.....	....
End point	205	242	387	.....	....
Percent over at 100° C.	20.5	.....	.....	.....	....
Percent over at 300° C.	.....	.....	64.0	1.0	....
Percent recovered	98.0	98.0	98.0	.....	....

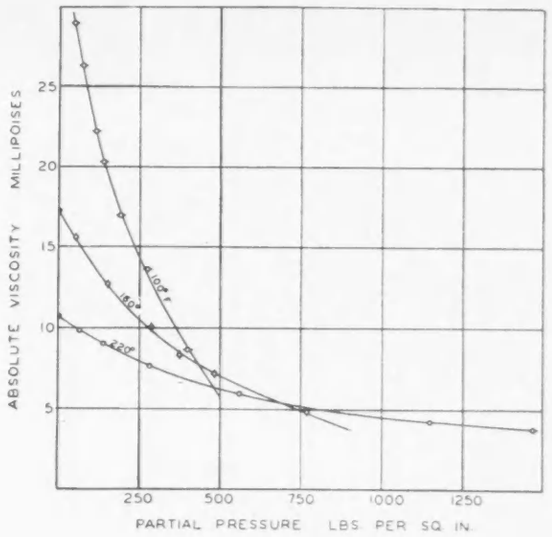


FIGURE 3
Experimental Results for Viscosity of the Ethane Solutions.

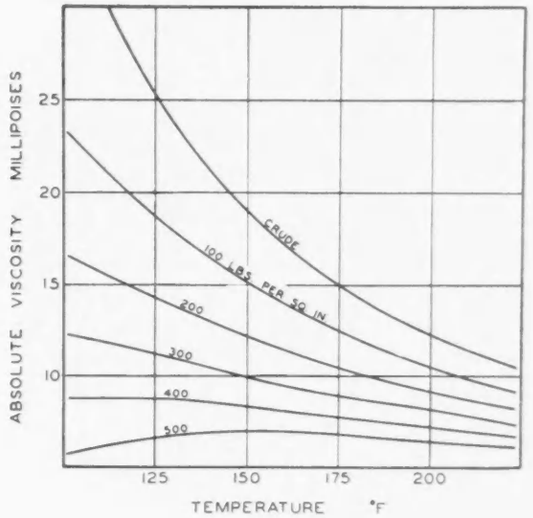


FIGURE 4
Viscosity of the Ethane Solutions as Related to Temperature.

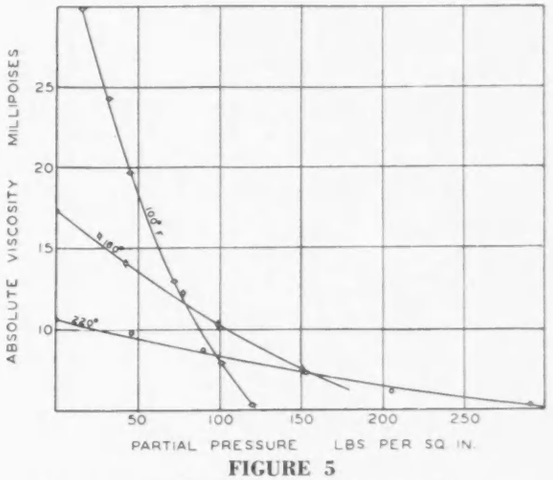
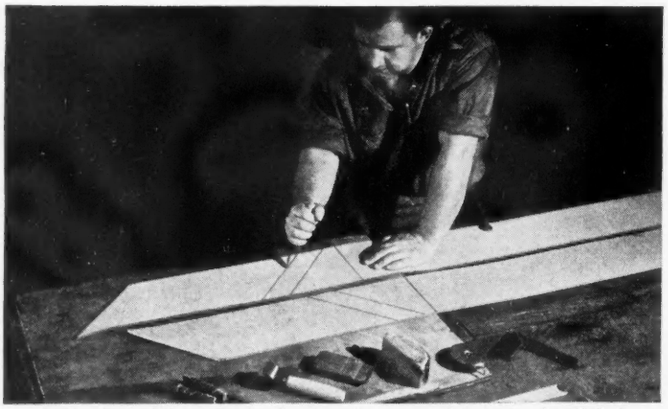
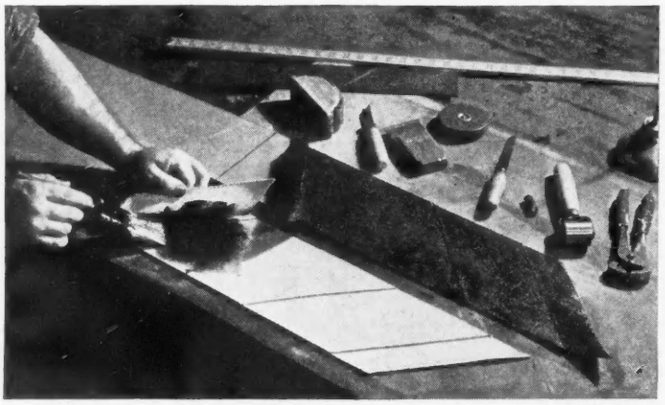


FIGURE 5
Experimental Results for Viscosity of the Propane Solutions.

FORGET BELT FASTENER



• *The first of the eight simple operations needed to make the Plylock Splice—making the first cut with one-ply knife.*



• *The cutting, stripping and cleaning operations in making the Plylock Splice have been completed, and one end cemented. The other end is here being cemented.*

• *One of the final steps in making the Plylock Splice—application of the "ply locking" fabric.*

Goodrich Plylock method makes the acknowledged economy of endless belts practical on any drive with take-up . . .

OIL MEN who have struggled with belt fasteners, are welcoming the revolutionary Plylock program developed by Goodrich.

This Goodrich program consists of the patented Plylock Splice and a practical, easily portable electric vulcanizer . . . The Plylock is a step-down splice but with this important difference—the outside seam where trouble usually occurs is carried under the surface so that wear and windage cannot get at it.

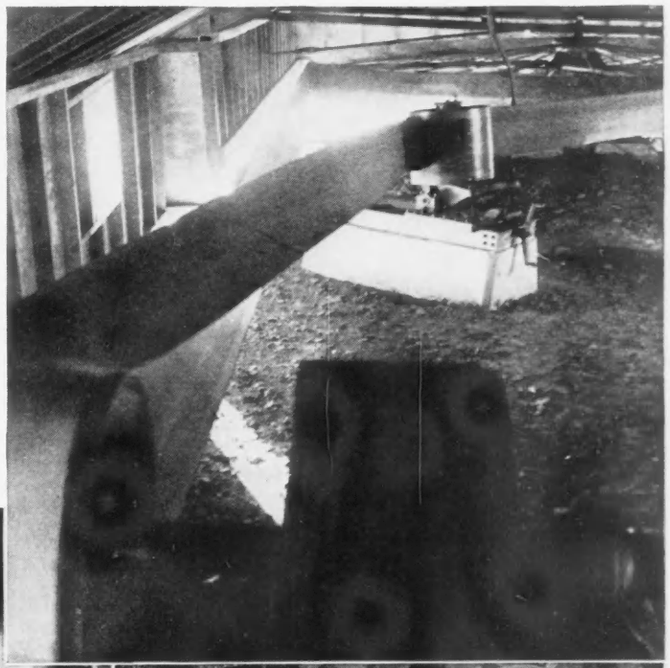
The portable vulcanizer can be used by any mechanic, and can vulcanize small belts in less than an hour, large belts such as those for main power drives in a few hours—usually 2 or 3. The belts can then be used immediately.

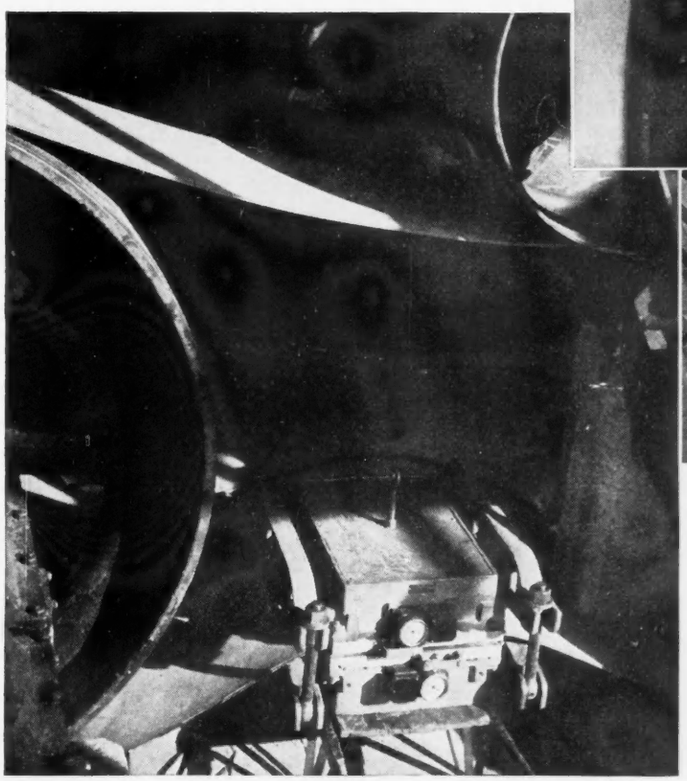
The Plylock Splice has now been used in almost every type of plant for two years. In every case in which we have been able to obtain records it increased belt life—in many cases two and three times. In every case it reduced belt cost—in one plant by 75%.

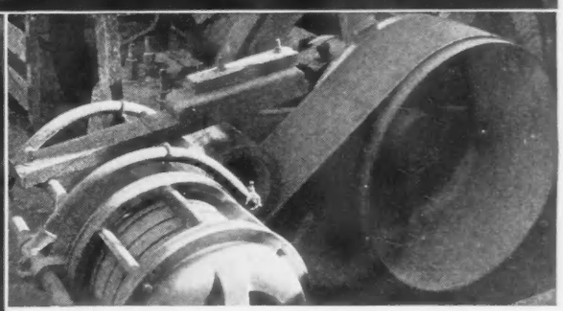
This Goodrich method means that any

AND SPLICE TROUBLES

drive with take-up can now have the recognized economy, convenience, safety of endless belts. Most Goodrich Distributors are equipped to cut and vulcanize the Plylock Splice in their plants or on your machines. Or you can buy a vulcanizer for $45 up, depending on the size of belt you use, and any good mechanic can learn the complete operation in a few hours. Call your Goodrich Distributor, or write The B. F. Goodrich Company, Mechanical Rubber Goods Division, Akron, Ohio.







● **AT TOP**—*All fastener trouble forgotten now, with Endless Highflex Belt on this pumping power drive.*

● **ABOVE**—*A short center Highflex Belt, made endless at a rock products plant.*

● **AT LEFT**—*The portable electric vulcanizer used in making belts endless by the Plylock method. Here it is vulcanizing an endless Highflex Belt on the drive.*

ALL *products problems* IN RUBBER

Highflex Belting

PLYLOCK BELT JOINT

U. S. PATENT NO. 1,996,528

Increase
Your Yield
In
Every Field
With
AXELSON
Pumps
And
Sucker Rods

THE AMERICAN PETROLEUM EQUIPMENT SUPPLIERS ASSOCIATION MEMBER

THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY

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equilibrium for measurements after each addition. The necessary values of the density of the saturated solutions were taken from previously published data for the propane solutions[5] and from as yet unpublished measurements by the authors for the other cases.

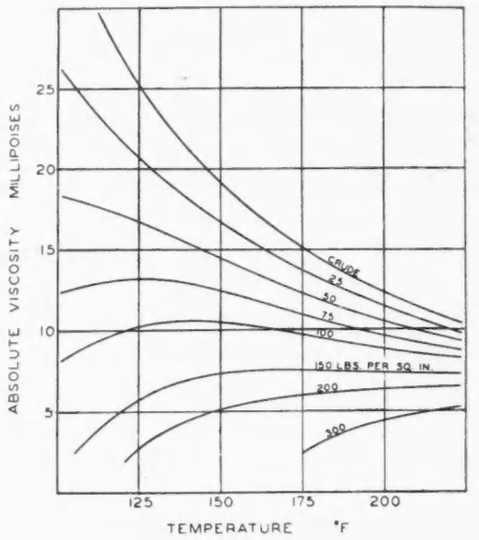

FIGURE 6
Viscosity of the Propane Solutions as Related to Temperature.

The viscosity of saturated solutions of methane in the crude oil was measured at five temperatures from 100° F. to 220°F. and for equilibrium pressures up to 3000 pounds per square inch. At the higher pressures, appreciable quantities of the more volatile constituents of the crude oil were transferred to the gas phase as a result of proximity to the critical state of the mixtures under these conditions. In order to render the results for different temperatures comparable to each other, the same amount of crude oil was used in each set of measurements.

The experimental results for the viscosity of the methane solutions, as a function of equilibrium pressure for the series of different temperatures, are shown in Figure 1. The same data are re-plotted in Figure 2 to show viscosity as a function of temperature for a series of different equilibrium pressures. Table 2 presents interpolated value of viscosity for convenient pressures at each of the temperatures at which measurements were made.

In the solutions of the three other gases—ethane, propane, and *n*butane — the maximum concentrations studied were limited by the appearance of a second liquid phase. This new phase, probably asphaltic in character, was semi-plastic, and prevented further measurements at higher concentration. For these three gases the large increase in volume of the liquid phase with increasing saturation pressures necessitated the withdrawal of portions of the liquid phase in the course of a set of measurements.

The experimental viscosity values for the ethane solutions, at three of the five temperatures studied, are shown in Figure 3. Table 2 presents values for even pressures. The viscosity of these solutions is plotted as a function of temperature for a series of different pressures in Figure 4. The highest equilibrium pressure in the case of these ethane solutions was 1600 pounds per square inch at 220°F.

The corresponding values for propane solutions are given in Figures 5 and 6 and in Table 2. The maximum

pressure in this case was 400 pounds per square inch at 220°F.

In the case of *n*butane solutions, only four temperatures from 130°F. to 220°F. were included in the study, the vapor pressure of *n*butane at 100°F. being too low to permit study at that temperature. The maximum pressure was 160 pounds per square inch at 220°F. Plots and a tabulation similar to those for the other cases will be found in Figures 7 and 8 and in Table 2.

A comparison of the effect upon viscosity of dissolving separately each of the four gases in the crude oil is shown in Figure 9, for equal equilibrium pressures at 130°F. The smaller decreases in viscosity for the gases of lower molecular weight are partly due to their smaller solubilities in the crude oil on the basis of equal saturation pressure. A corresponding comparison on the basis of equal concentrations of dissolved gas was not attempted on account of uncertainties in the compositions of the various solutions when as volatile a solvent as this crude oil is used in the presence of a gas phase.

ACKNOWLEDGMENTS

The aid and encouragement of the American Petroleum Institute is much appreciated by the authors. The assistance of D. C. Webster in the preparation of the figures is gratefully acknowledged.

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[4] B. H. Sage, H. S. Backus, and W. N. Lacey, *Ind. Eng. Chem.*, 27, 686 (1935).
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TABLE 2

Absolute Viscosities of Solutions in Millipoises

Partial Pressure of Solute (Lbs. per Sq. In.)	100° F.	130° F.	160° F.	190° F.	220° F.
NO SOLUTE					
0	35.3	23.7	17.3	13.3	10.6
METHANE					
200	29.0	20.3	15.4	12.1	10.0
400	25.3	18.3	14.2	11.2	9.4
600	22.6	16.8	13.1	10.4	8.8
1,000	18.8	14.7	11.5	9.2	7.9
1,500	15.6	12.5	10.0	8.1	6.9
2,000	13.4	10.8	8.7	7.1	(6.1)
2,500	11.6	9.4	(7.7)	(6.3)	(5.4)
3,000	10.4	8.3	(6.7)	(5.7)	(4.9)
ETHANE					
100	23.5	17.9	14.1	11.3	9.4
200	16.7	13.9	11.5	9.7	8.4
300	12.3	11.0	9.5	8.5	7.5
400	8.8	8.8	8.1	7.5	6.8
500	(5.7)	6.8	7.0	6.6	6.2
600	....	(5.0)	6.1	(5.8)	(5.7)
800	....	....	(4.5)	(4.8)	(5.0)
1,000	....	....	....	(4.0)	(4.5)
1,250	....	....	....	....	(3.8)
PROPANE					
25	26.5	19.7	15.3	12.2	10.0
50	18.3	16.3	13.5	11.1	9.4
75	12.3	13.2	11.8	10.1	8.8
100	8.1	10.4	10.2	9.1	8.3
150	....	(6.3)	7.5	7.4	7.3
200	....	(3.5)	(5.5)	(6.1)	(6.5)
300	....	....	....	(3.8)	(5.1)
***n*BUTANE**					
10	....	19.3	15.4	12.1	10.0
20	....	15.1	13.6	11.1	9.5
40	....	7.9	10.1	9.1	8.4
60	....	....	(6.9)	7.3	7.4
80	....	....	(3.9)	(5.7)	(6.4)
100	....	....	....	(4.1)	(5.4)
125	....	....	....	....	(4.3)

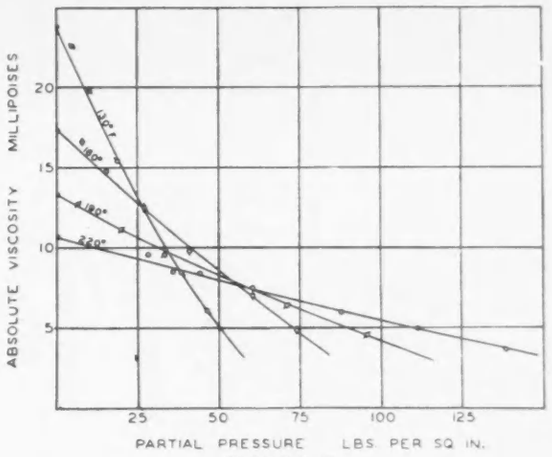


FIGURE 7

Experimental Results for Viscosity of the *n*Butane Solutions.

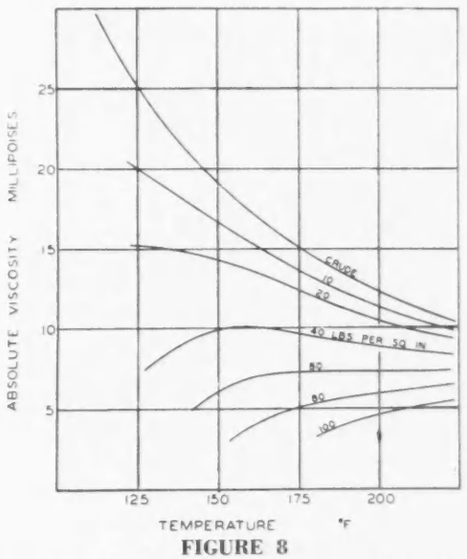


FIGURE 8

Viscosity of the *n*Butane Solutions as Related to Temperature.

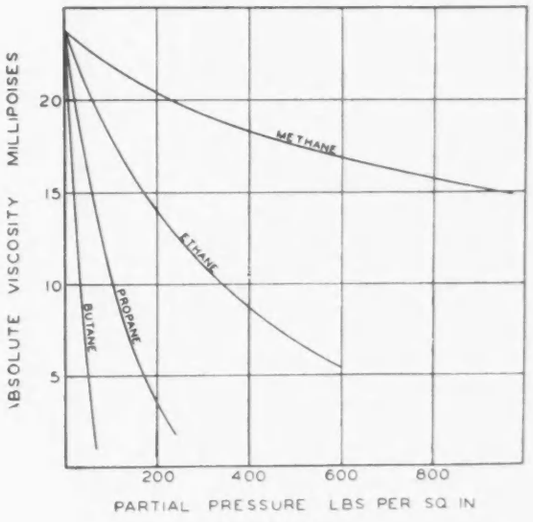


FIGURE 9

Comparison of the Viscosity of Solutions of Different Gases in Santa Fe Springs Crude Oil at 130°F. on the Basis of Saturation Pressures.

U.S.S.R. Situation

NEW DISCOVERIES IN 1935 FAIL TO KEEP PRODUCTION UP TO CONSUMPTION

By M. N. JURIN, Geologist
Los Angeles, California

ACCORDING to the Russian official estimate the petroleum output of the Soviet Union in 1935, totaled 26,772,000 metric tons or about 181,000,000 U. S. barrels, exceeding thus the production of the previous year by five percent. This gain was obtained due to the increased production in the last three months of the year, while the production during the first nine months lagged below that of the corresponding months of the year 1934. It is interesting to note that this production increase was accomplished by the Baku (Azneft) oilfields, proving that this old oil producing territory still looks more reliable than more recently discovered oil areas.

However, the 1935 Soviet oil production still fell short of its goal, reaching only 96 percent of the planned output. The Baku oilfields with their 136,000,000 barrels output, or 75 percent of the total Russian output, still stand far ahead of other Soviet oil producing regions. Next place belongs to the Gronzy area, which yielded in 1935 approximately 20,000,000 barrels, or about 11 percent of the total production. The oil territory outside of the Caucasus, the Ural and Emba oilfields account only for 5.3 percent of the total Russian production.

Newly Discovered Oilfields

In spite of the considerable expenditure of capital for the oil exploration and very extensive drilling campaign, it seems, no oil regions of major importance has been discovered in 1935. There were many reports in the Soviet press about newly discovered areas, but before coming to definite conclusion about their relative importance, it would be better to wait until the production will be substantially developed, which, so far, failed to take place.

However, we might mention the following newly discovered fields, as potential producers:

In the Baku (Azneft) region, two extensions of these famous fields have been found at Zych and Pirsagat. At Zych a flowing well was completed yielding about 10,000 barrels daily and preparations were made for an extensive drilling on this territory. In January of this year another extension at Kizil Tepe seems to have been opened by a well producing a crude with the high benzine content. The latter fact is considered important in view of the continued decline of the light fractions content in the Baku crudes.

In the Grozny district at Adu-Yurta a new gas sand was located at the depth of 3500 feet.

At Dagestan (Caucasus range) the new field at Kaykent is beginning to develop production and two other fields—Atchi-Sou and Izber-Bash—also likely to enter soon the production stage.

In the Emba district two new fields—Koschalyg and Iskine—were put into production with the combined output about 10,000 barrels. However, in view of the fact, that this production was obtained from the flowing wells, it is not certain if the output at this rate will be maintained.

Ural-Emba Set for Development

The attention of the Soviet oil administration at present is centered on the Ural-Emba region. The Emba oil district recently was connected by pipe line with the Caspian Sea and with Orsk, a town located north of the Caspian Sea. The construction of this line will solve the problem of Emba oil product delivery to the Russian industrial centers, as Orsk is situated on the railroad line, while the Emba district was not connected with the Russian railroad system. A large cracking plant has been built at Orsk. The total length of the Orsk-Caspian pipe line is about 450 miles. It is also proposed to build in 1936 a railroad line, connecting the Emba oilfields with the Russian railroad network.

Recently Goubkin, a member of the Soviet Academy of Science and the chief authority on the petroleum geology of the U. S. S. R., has made a report to the Council of the People Commissars about the future development of the Ural-Emba oil territory. The area of this territory, in Goubkin estimation, totals 500,000 square kilometers, or about 270,000 square miles. On this enormous territory, according to Goubkin ("Izvestia" November 24, 1935) are located approximately 1500 oil pools (salt domes) and "the magnitude of the oil deposits in this region is evident from the fact, that in ten out of these 1500 pools the oil resources total about 45,000,000 tons. There are reasons to expect that by their quantity the petroleum resources of the Ural-Emba region will closely approach that of Baku."

The location of this oil territory is more specifically defined by Goubkin in an even more enthusiastic statement, which is quoted in the highly official organ "Pravda" (October 9, 1935), in its editorial titled "The Second Oil Base of the Country": "We have explored and firmly established a grandiose oil territory which extends from the Persian boundary along the Eastern coast of Caspian Sea, embraces the Ural-Emba district, follows Volga river and reaches the Arctic Ocean."

The fact rather difficult to comprehend in connection with discovery of this oil region, is why only a

negligible output amounting to 5.3 percent of the Soviet total, was obtained in 1935 from this enormous "firmly established territory" with 1500 known oil pools. In the present conditions of threatening oil shortage in the Soviet Union, such a delay in the development seems to be lacking justification.

Tractors Operation Curtailed by Shortage

The shortage of ligroin on the Soviet domestic market finds an official confirmation from Mejlauk, a member of the Soviet State Planning Board, in his report to the Soviet Central Executive Committee, made on January 11, 1936. Mejlauk stated in part: "The non-fulfillment of the oil production plan during a number of years and in the same time the successful attainment of the full production quota in the tractors and automobile industry . . . in spite of the reduced consumption of the oil by some consumers, hinders the operation of other industries. Already in the current year the plowing of the fields was not completed properly on account of lack of the ligroin." (Izvestia, January 12, 1936).

If we will take into consideration that in 1936 to the already operating 400,000 tractors 140,000 new tractors will be added by three Soviet tractor plants and that the number of automobiles will be increased by approximately 150,000 units—the seriousness of the Soviet fuel problem will be obvious.

The export of the oil products by the Soviet Union in 1936, according to the preliminary estimate will be slightly in excess of 20,000,000 U. S. barrels. This is a decrease by 20 percent from that of the last year and more than 50 percent decrease from 1932 export of 42,000,000 barrels — the highest point reached by the Soviet exports.

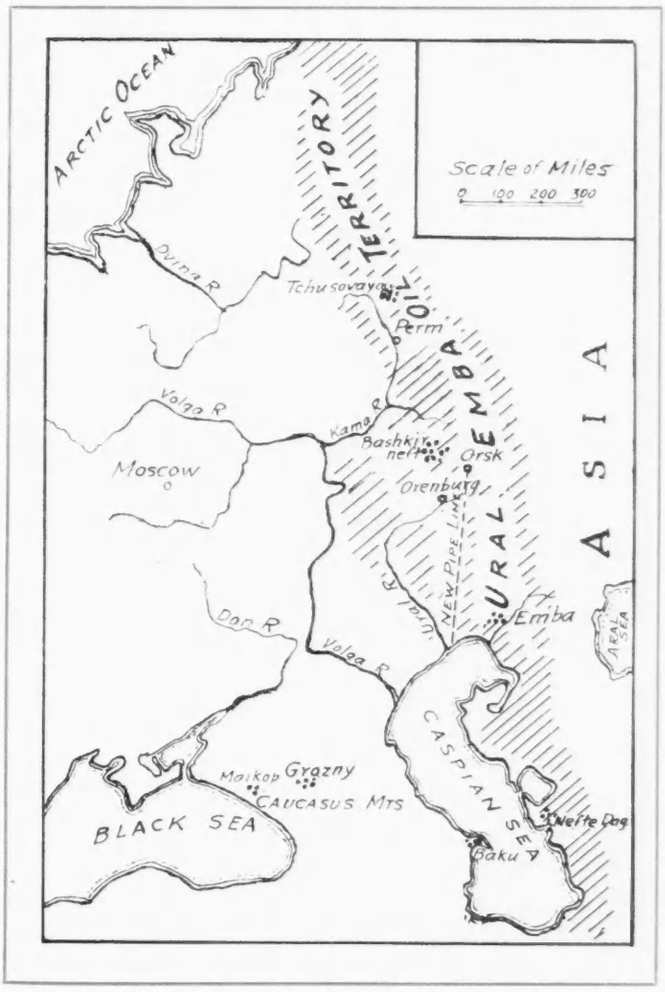
Program for 1936

The Soviet petroleum industry plan for 1936 calls for production of 30,000,000 tons (200,000,000 U. S. barrels) of oil and gas. The output will be distributed among the different trusts as follows: the Azneft Trust—22,000,000 tons—increase in relation to 1935—seven percent; the Grozneft—3,350,000 tons—increase against 1935 — two percent; the Eastern trusts (Vostokoneft and Bashkirneft) 2,850,000 tons —increase of their relative percentage in the Soviet total production from 5.35 percent to 9.5 percent.

It is proposed by the 1936 plan to refine 25,100,000 tons of crude, which will constitute an increase of 17 percent against that of the last year. The kerosene production will total 5,560,000 tons—an increase of 13 percent against the last year; the benzine and ligroin production is scheduled to be 3,920,000 tons—an increase of 27 percent against the last year.

The large capital will be expended for the drilling on the new and proven territories. The total footage to be drilled will total 2,150,000 metres (7,054,000 feet) according to the plan.

Another article on the situation in U. S. S. R. will appear in an early issue—EDITOR



OIL FIELDS IN U. S. S. R.

Legend

Dotted areas represent known oil fields. The cross-hatched area is supposed oil productive territory, upon which the Soviets are depending to produce crude for future needs.

Locating Engine Failure

REPEATED PIPE LINE STATION TROUBLE OVERCOME BY SIMPLE PROCEDURE

By ELTON STERRETT, Engineer

THAT it sometimes pays to consider the interrelation of various units, when the assembly fails to function properly yet the component parts all check up perfectly, was proved recently by repeated trouble with a motor-driven compressor furnishing air-lift air to the deep well which, in turn, supplied make-up water for cooling six Diesels driving the crude oil pumps of a main line station.

Housed separately and in a corner of the tank farm remote from other equipment, the water pumping unit consisted of a three-cylinder, single-stage compressor-driven through V-belts by a 10-horsepower, three-phase synchronous motor. The "dog house" sheltering this unit was a scant six by eight feet, outside measurements, and built tightly to protect the plant from freezing weather. The usual two-way line switch was used, with actual starting procured through a push-button magnetic control provided with the customary temperature-overload relay.

Operated at first with the pump delivery directly connected to the air line into the well, much difficulty was experienced through the well flowing by heads—the alternate surges of air and water racking the overhead tank severely and rendering almost impossible the keeping tight of the delivery line connections.

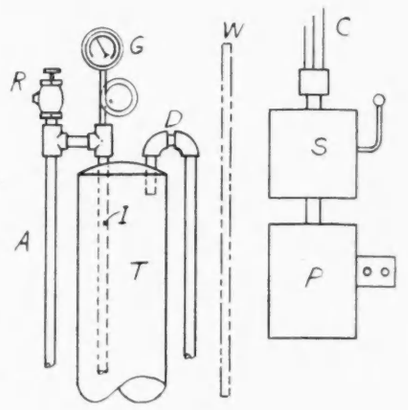
To avoid the troublesome surging a small vertical tank or receiver was cut into the air line with the air from the compressor entering through a pipe carried through the upper head nearly to the tank bottom, the air to the well being taken off near the top.

After this seemingly harmless change in the air hook-up, the plant ran perfectly for almost three months and then the motor developed a most annoying trait of cutting out 20 to 30 minutes after being started. After each of these strange shut-downs it was necessary only to reset the relay and restart.

Time after time the chief engineer and the company electrician stood by to watch the unit started; as often the engineer overhauled the compressor for some trouble which overheating after a run might cause; while the electrician went over the motor, the starting switch and his wiring for possible loose connections or other failures—and as long as the men stayed near, the unit ran perfectly.

The trouble was spotted by a visiting engineer, to whom the difficulty was disclosed while being shown over the tank farm by the chief. He at once suggested the cause of the trouble, but as the mysterious way in which the unit cut out had led the men on the job to expect something deep seated, he was only scoffed at.

Finally, just to prove the visitor in the wrong, a test was arranged. The delivery line to the well was closed off and the compressor started, pumping air into the receiver to build up the maximum pressure of 150 pounds, after which the excess was discharged into the air through the safety valve.



A—Air line from compressor
R—Safety Valve
I—Inlet into tank
G—Gauge
T—Receiver
D—Air line to well
C—Incoming wiring
S—Knife switch
P—Starting switch
W—Insulating partition

Exactly 12 minutes after the start of the test run the motor stopped. The entire control panel was too hot to be touched with the bare hand. The temperature-overload relay, functioning as designed, had operated.

Louvred openings to the outdoors were cut through above and below the receiver, and a foot-wide wing wall of doubled asbestos board fastened between the starting switch and the tank, as shown at "W" in the sketch. The trouble arose from the panel and receiver being located too close together—the gap measured but 10 inches at the narrowest point—so that the heat from the tank radiating against the panel, heated it in turn, bringing up the temperature of the thermostatic element to the point where it tripped.

The three months of satisfactory operation following the installation of the receiver, and which threw off the chief engineer and the electrician in their search for the trouble, was explained by the calendar. During cool weather the unit had worked perfectly, as the tank could not raise the temperature of the air surrounding it sufficiently to actuate the relay.

Further investigation also brought to light a simple reason for the continued operation of the unit while being watched; both electrician and chief engineer had seized the opportunity of catching a smoke while watching the compressor, and while so doing had left the "dog house" door open and so doing had admitted sufficient circulation of air to keep the panel cooled below the danger point.

The trouble was traceable to lack of foresight in locating two perfectly functioning units—the receiver and the starting panel—too closely together; disregarding the effect of heat radiated by one against the unprotected case of the other.

See pages 288 to 352 in your 1936 COMPOSITE CATALOG for the complete line of...

BJ

DRILLING AND PRODUCTION TOOLS

If you have even one producing well it will pay you to look in your

BJ SURESTOP TUBING CATCHER

THE ADVANTAGES OF ANCHORING TUBING BY THE BJ SURESTOP CATCHER METHOD

You can secure these advantages by anchoring the tubing in your wells with a BJ Surestop Tubing Catcher:

Tubing breathing (vertical movement of tubing) can be eliminated, with resultant savings on casing and couplings;

The pump is anchored in a stationary position and a full stroke is secured, thus producing more oil, while pumping with a slower stroke;

A smoother pumping action is obtained, with worth while savings on all pumping equipment;

Production of oil is increased to the maximum efficiency of the pump, and the available quantity of oil;

The tubing is securely anchored—safe against damage due to accidental dropping, or to a parted tubing string;

Complete protection is present at all times while running-in or coming-out of the well;

Probability of fatigue failure in tubing is minimized;

The necessity for a large percentage of expensive tubing-pulling jobs is eliminated.

DESIGN AND CONSTRUCTION

The Tubing Section—A single piece of hydraulic, seamless steel tubing extends from the top to the bottom of the catcher, thus maintaining the same internal diameter as the tubing. A heavy guide collar at the top of the tubing section centers the catcher in the casing and protects all moving parts from dragging or hanging up on the casing walls.

The Slip Actuator—In the BJ Surestop Catcher, the heavy actuator is located at rest above the slips. This design, combined with ample, recessed circulation clearance, prevents the slips from setting when running-in the hole. The size and increased weight of the actuator permits the use of a longer and stiffer spring than is ordinarily used, so that immediate, positive setting of the slips occurs, in event the tubing string should drop.

Improved Slips—In normal position the slips are dovetailed into a deeply recessed portion of the body so that the circumference at this point is considerably less than at any other portion of the body. Greater circulation clearance is thus secured and the slips are guarded from catching or hanging-up on the walls of the casing while running-in or from being set by heavy fluids or gas pressure.

Design of the large metal area which forms a riding surface for slips is shown by Fig. 67, lower left view. When slips set in casing, all inward thrust is thrown against the solid section of the head between the slips. There is no inward pressure against the tubing, and the possibility of tubing collapse is eliminated.

The amount of descending weight which a catcher can safely stop and hold is dependent upon the gripping area of the slips. Large slip area is inherent with the design of the "Surestop," being more than double that of ordinary catchers (See Fig. 67).

Fig. 66—Slips set by using anchor.

COMPOSITE CATALOG on page 317

5 STOPS— *just driving Johnny and Mary to school*

4 out of every 5 miles you drive are "STOP-and-GO"

FIRST you stop coming out of your driveway! Then you stop at a cross-street . . . stop at a traffic light . . . stop for a traffic cop . . . stop at the school! That's five stops—just on one "errand."

No wonder you average over 30 stops a day . . . shift gears over 60 times a day . . . eating up gasoline every time you stop, shift or accelerate.

Shifting gears after a single stop, leading automotive engineers say, can use up enough gasoline to take you ⅓ of a mile. That's costly driving!

For economy, your gasoline needs 3 kinds of power—just as your car needs 3 shifts of gears. You need one power for QUICK STARTS, one for FAST PICKUP, one for STEADY RUNNING.

Super-Shell combines these 3 different kinds of power in one fuel—the *first* truly balanced gasoline! Super-Shell is sold at over 30,000 neighborly Shell stations from coast to coast.

SUPER SHELL

Markets Steady

KEROSENE IN STRONG DEMAND AND GASOLINE SALES EXPAND

THE markets currently have a strong tone, because of various favorable circumstances. Demand is trending upward, with better weather stimulating gasoline consumption, and impending farm activity causing buying of kerosene. Prices of the refined products are steady and improving slightly, in consequence of the strong demand and the current success in limiting crude production to requirements. The crude oil markets are generally firm throughout the country, by virtue of the effective production curtailment; and producers are beginning to have higher hopes for further increases of crude postings within a few months.

California has an improved market situation, with crude production greatly reduced under the voluntary curtailment program. But the West Coast still is suffering from the protracted period of overproduction, as evidenced by the action March 3 of Standard Oil Company of California in lowering retail gasoline prices from one half to three cents a gallon at various points in the Pacific Coast region, from San Diego to Seattle. The wholesale prices also were adjusted. The reductions were described as having been made to meet competition. Since California crude production is being held down, however, the hope is felt that the sub-normal prices for the West Coast will not last more than a few weeks.

California Restricts Output

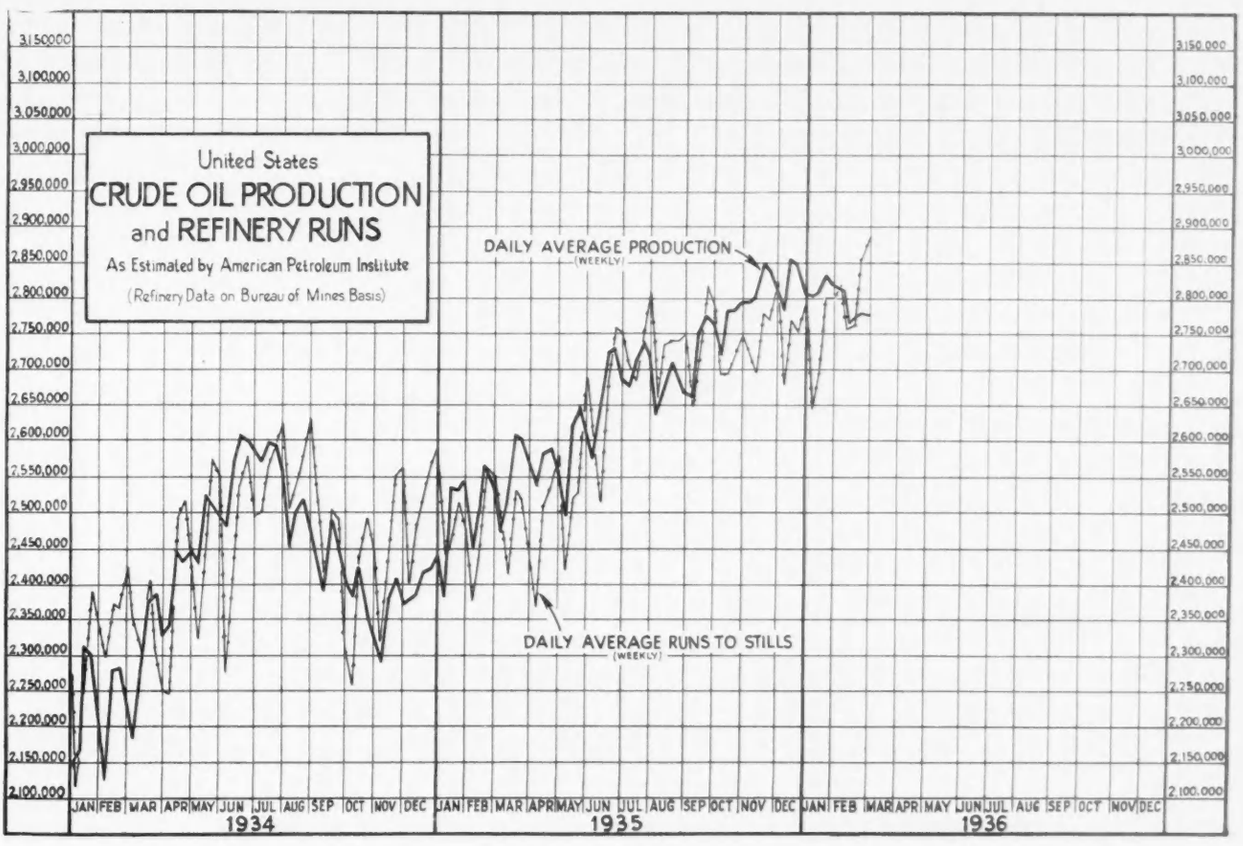
During the past week crude production in California averaged about 568,500 barrels daily. That output was within about 30,000 barrels of the 538,800 barrels per day set as the goal for March, and reflected the fact that several fields still have not curtailed enough to earn the higher crude prices posted recently in the fields of successful curtailment. Last week's production was, nevertheless, in pleasing contrast with the average output of around 680,000 barrels daily maintained during December and January. There is a possibility that the California output will be lower in the remaining weeks of March. It has long been customary for the California producers to open their wells wider at the beginning of each month, and later to cut back, in compensation. Although the state's output jumped to a little over 570,000 barrels daily the first few days of March, it had been down to 551,454 barrels on February 29.

Although California has been suffering from overproduction of crude, the West Coast markets have been bolstered appreciably by a particularly strong demand. Gasoline sales in California in January set a new all-time record for that month. Sales of new cars and motoring of winter tourists apparently helped make the new record.

Determined efforts are being made toward further curtailment of crude production in the several California fields where success has not yet been achieved. The new prices in fields where the postings were advanced are the highest since March, 1931.

Kerosene Market Strong

Strength of the kerosene market continued to feature the Mid-Continent situation the past week, with supplies difficult to obtain, and prices rising. Quotations late in the week in Oklahoma were one quarter cent higher than a week previously. The price of



41-43 water white kerosene f. o. b. Oklahoma refineries had risen to a range of 4 to 4⅛ cents a gallon, and for 42-44 water white kerosene to 4⅛ to 4¼ cents. Purchasers of kerosene have reflected efforts of refiners to supplement current supplies with outside purchases and the action of jobbers in accumulating supplies for spring consumption.

Gasoline Steadier

The gasoline tank car market in the Mid-Continent showed some improvement during the past week, as distress offerings decreased and prices remained generally unchanged. More favorable weather had not yet been reflected greatly, however, in open market gasoline sales.

Late in the week prices on U. S. motor gasoline f. o. b. Oklahoma refineries ranged as follows: third grade, 62 octane and below, 5 to 5⅛ cents a gallon, or the same as one week previously; and regular grade, 63-70 octane, 5⅞ to 6⅛ cents, or one eighth cent less than a week earlier. Corresponding prices f. o. b. refineries in North Texas and West Texas were 5 to 5⅛ cents for the third grade, or about the same as a week before, and 6 to 6⅛ cents for the regular grade, also about unchanged. Similarly, third grade was unchanged at East Texas refineries at 4⅞ cents.

MARKET WEAKENS

East Texas is being hurt by Rodessa situation

TYLER.

GASOLINE produced by North Louisiana refineries from distressed priced Rodessa crude is cutting in on the normal market heretofore enjoyed by East Texas plants. This competition threatens to assume greater proportions as the Rodessa area is rapidly developing into a major refining center, and the plants enjoy a small freight advantage in shipping to the southeast and north. Current production of gasoline in East Texas is restricted by price quotations to delivery to Texas points and to sales made to majors with a few independent sales being made for coastwise delivery.

Plants complying with federal tender regulations are almost entirely dependent upon majors for market relief. The latter continue to absorb about 200 cars of motor fuel each week, but the price has been lowered to 4⅞ cents per gallon. Sales made outside the buying pool ranged from this top price down to 4⅜ cents per gallon at the beginning of March. Tank car shipments of gasoline from East Texas plants have decreased in volume during the past two weeks, and a corresponding gain has been noted in tank truck deliveries to Texas points. Price wars are reappearing in a number of important delivery points, with retail prices dropping to five cents per gallon, exclusive of taxes, at a number of independent outlets within and near Dallas. Hot oil production is on the upgrade, and greater quantities of confiscated oil is becoming available to plants through sales approved by state authorities. Estimates on the volume of illicit crude produced the past week varied from 10,000 to 20,000 barrels daily. The latter figure is believed excessive, as only 20 plants are in operation. State authorities have preferred charges against a number of violators lately.

East Texas Tank Car Shipments

Week Ending March 1, 1936

PRODUCTS	No. Cars	Estimated Gallons
Gasoline	562	4,561,672
Fuel Oil	251	2,447,856
Casinghead Gasoline	187	1,537,017
Distillate	47	380,477
Gas Oil	32	260,910
Kerosene	31	247,643
Residuum	4	32,288
Topped Crude	1	10,101
Total	1,115	9,477,964
Total Previous Week	1,139	9,683,395
Coastwise	450	.....
Intrastate	358	.....
Interstate	307	.....
Total	1,115	.....

CUT GASOLINE

California follows crude raise with reduction

LOS ANGELES.

DAILY average production in California dropped to 551,454 barrels on last day in February, but the state production jumped to 571,731 barrels on March 1 and to 573,483 barrels on March 2. And this daily production is against a daily allotment of 538,800 barrels set for March. So there is a big question as to whether producers in "bad acting fields" intend to cut down to the point where they can expect to get the benefit of newly offered new and higher prices, if they drop to the proposed allowable.

It is the custom of producers in certain fields to increase production during the first few days of a month and then shut in their wells the last half of the month. Just what this practice means remains to be seen. No one can guess.

The general marketing situation is showing some improvement, due to expectations, rather than as to actual conditions. It is felt that the situation will be righted within two weeks. It is felt that it will be possible to increase gasoline retail prices to a reasonable figure by March 15. Whether this expectation is well taken remains to be seen.

To meet competitive conditions and to establish a uniformity of price levels, which competitive practices have disturbed, Standard Oil Company of California announces reductions in the retail prices of gasoline effective March 3, 1936, as follows:

Standard Ethyl Gasoline and Standard Gasoline (regular) San Diego and Santa Barbara .5 cent.

San Francisco, Oakland, San Jose,

Summary of Wells Completed in the United States Week Ending March 7, 1936

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total Completions 1936	Total Completions this date 1935
Alabama	....	....	....	....	.....	....	1
Arkansas	1	....	....	1	.....	17	36
California	10	9	1	....	3,975	154	122
Colorado	....	....	....	....	.....	....	2
Illinois	4	....	4	....	.....	4	4
Indiana	....	....	....	....	.....	34	30
Kansas	26	20	....	6	21,996	227	209
Kentucky	....	....	....	....	.....	21	16
Louisiana	17	11	....	6	48,843	158	121
Michigan	13	8	2	3	1,735	127	56
Mississippi	....	....	....	....	.....	1	5
Montana	1	1	....	....	150	17	9
New Mexico	10	10	....	....	18,745	79	48
New York	....	....	....	....	.....	....	....
Ohio	26	13	10	3	180	397	271
Oklahoma	40	25	2	13	63,841	454	348
Pennsylvania	....	....	....	....	.....	....	24
Texas	243	162	7	74	317,531	1,944	1,761
Utah	....	....	....	....	.....	....	....
West Virginia	6	3	2	1	34	118	103
Wyoming	....	....	....	....	.....	6	2
Total this week	397	262	28	107	470,030	3,758	3,168
Total last week	430	246	68	116	298,394	....	....
Total this year	3,758	2,464	417	877	3,793,529	....	....

Comparison of Permits Granted for New Wells

STATE	Week Ending Mar. 7	Total this Mo.	Total this Year	Total this Date Last Year	1935 Year Total
Arkansas	1	1	15	31	70
California	18	18	131	129	925
Louisiana	20	20	173	123	846
Kansas	32	32	270	252	1,204
Michigan	1	1	96	72	749
Oklahoma	33	33	409	345	2,311
Texas	232	232	2,090	2,171	10,800
Total	337	337	3,184	3,123	16,964

Bakersfield, Fresno, Stockton, Sacramento, Phoenix, Medford, Portland, Walla Walla, Tacoma, Seattle, Spokane and Ketchikan—2½ cents per gallon. Reno 3 cents per gallon.

On Flight Gasoline (Third brand) at San Francisco, Oakland, San Jose, Bakersfield, Fresno, Stockton, Sacramento and Phoenix—2 cents per gallon.

At Reno, Medford, Portland, Walla Walla, Tacoma, Seattle and Spokane—2½ cent per gallon.

Readjustments have also been made in the wholesale prices to the effect that the differential to exclusive dealers will be 4 cents per gallon on regular gasolines and 3 cents per gallon on third brand gasoline; and to non-exclusive dealers 3 cents per gallon on all grades of gasoline.

PRODUCTION DOWN

Output near demand for first time in weeks

LAST week's record of crude oil production was one offering much encouragement. For the first time in many weeks the nation's output was practically within the Bureau of Mines estimate of proper production.

The United States production for the week, that is, the period ended March 7, averaged 2,743,300 barrels daily, according to estimates compiled by THE OIL WEEKLY. That was only 4400 barrels a day more than the Bureau of Mines recommended as the correct average for March. The production was 23,700 barrels a day lower than in the previous week.

California Under Control

California continued last week to stay down close to the market demand, although output was slightly above that in the previous week, in accordance with the regular practice of California producers in opening wells wider in the early part of the month, and later reducing the production. The continued curtailment in California is encouraging, since the state overproduced consistently for several months prior to launching of the present control program about February 1. The California output last week averaged 568,500 barrels daily, compared with 564,500 barrels per day the previous week. The Bureau of Mines recommended that California produce 538,800 barrels daily during March. Consequently, last week's output was excessive to the extent of about 30,000 barrels daily. However, it is hoped that stricter curtailment will prevail later in the month.

Oklahoma Shows Decline

Oklahoma production declined last week to 473,200 barrels daily, having averaged about 26,000 barrels per day less than in the previous week, and about 37,000 barrels daily less than the Bureau of Mines estimate of average daily demand in March. The low figure for Oklahoma reflected, however, production in the closing days of February, prior to the customary boosting of output at the opening of each month. The production under the increased allowables of March will be reflected fully in the production figures a

United States Crude Oil Production

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	BARRELS DAILY FOR WEEK ENDING March 7	February 29
TEXAS—		
Texas Panhandle	59,400	59,200
North Texas	56,600	56,600
West Central Texas	24,800	25,100
West Texas	162,500	160,800
East Central Texas	49,100	49,600
*East Texas Field	437,600	436,800
†South Texas	70,700	70,600
†Texas Gulf Coast	219,800	217,600
*Total Texas	1,080,600	1,076,300
OKLAHOMA—		
Oklahoma City	107,500	131,150
Seminole Area	120,375	125,525
Tatums	3,575	3,600
Lucien	10,750	10,000
Fitts	43,200	42,575
Edmond	10,100	9,150
Others	177,700	177,500
Total Oklahoma	473,200	499,500
KANSAS—		
Ritz-Canton	7,300	6,525
Voshell	2,675	3,525
Nikkel-Hollow	4,325	4,250
Sedgwick	5,600	5,975
Oxford	7,375	7,700
Burrton-Haury	11,950	13,750
Lorraine	9,300	11,375
Others	92,575	96,550
Total Kansas	141,100	149,650
LOUISIANA—		
North Louisiana	68,300	72,400
Louisiana Gulf Coast	133,600	134,100
Total Louisiana	201,900	206,500
ARKANSAS	29,500	29,250
CALIFORNIA—		
Long Beach	60,000	69,500
Santa Fe Springs	43,500	43,500
Huntington Beach	36,500	37,000
Dominguez	30,500	30,000
Inglewood	11,800	12,000
Ventura Avenue	34,000	33,500
Seal Beach	7,500	7,000
Midway-Sunset	53,500	47,500
Elwood	12,000	12,000
Kettleman Hills	76,000	75,500
Mountain View	27,000	27,500
Playa del Rey	13,000	13,500
Others	154,200	156,000
Total California	568,500	564,500
MOUNTAIN STATES—		
Wyoming	32,100	31,200
Montana	12,400	12,400
Colorado	4,100	3,900
Total Rocky Mountain States	48,600	47,500
NEW MEXICO	57,100	57,200
EASTERN STATES	105,400	100,400
MICHIGAN	37,400	36,200
*Total United States	2,743,300	2,767,000
*Surreptitiously produced oil in East Texas, not included in above figures, estimated at	10,000	10,000
Grand Total, including surreptitious production	2,753,300	2,777,000

† Coastal District of South Texas is included with Texas Gulf Coast.

Crude Runs to Stills; Stocks of Finished and Unfinished Gasoline and Gas and Fuel Oil, and Cracked Gasoline Production, Week Ended February 29, 1936

(Figures in thousands of barrels of 42 gallons each reported by American Petroleum Institute)

DISTRICT	Daily Refining Capacity			Crude Runs to Stills		Stocks of Finished and Unfinished Gasoline				Stocks of Gas and Fuel Oil			Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
						Finished										
	Potential Rate	Reporting		Daily Average	% Operated	At Refineries	Terms. Trans. Pipe Lines	Unfinished in Naphtha Distillates	Total Finished and Unfinished	Gas Oil & Distillate	Residual Fuel Oil	Total	Potential Rate	Reporting		Daily Average
		Total	%											Total	%	
East Coast	612	612	100.0	515	84.2	6,620	9,383	1,052	17,055	2,292	3,567	5,859	534	534	100.0	91
Appalachian	154	146	94.8	94	64.4	1,676	928	269	2,873	488	205	693	79	78	98.7	20
Ind., Ill., Ky.	442	424	95.9	379	89.4	7,212	3,068	849	11,129	906	1,437	2,343	349	348	99.7	105
Okla., Kans., Mo.	453	384	84.8	256	66.7	4,828	2,403	736	7,967	723	1,914	2,637	256	228	89.1	56
Inland Texas	330	160	48.5	88	55.0	1,473	102	251	1,826	164	1,181	1,345	148	105	70.9	18
Texas Gulf	680	658	96.8	621	94.4	7,493	286	1,613	9,392	3,159	4,890	8,049	399	393	98.5	137
Louisiana Gulf	169	163	96.4	135	82.8	1,200	308	220	1,728	751	1,779	2,530	77	74	96.1	28
North La.—Ark.	80	72	90.0	38	52.8	195	87	119	401	10	419	429	46	44	95.7	9
Rocky Mountain	97	60	61.9	40	66.7	1,421	.....	96	1,517	173	529	702	46	39	84.8	15
California	852	789	92.6	508	64.4	9,853	2,345	1,186	13,384	.....	.....	70,011	280	280	100.0	71
Reported	.....	3,468	89.6	2,674	77.1	41,971	18,910	6,391	67,272	.....	.....	94,598	.....	2,123	95.9	550
Estimated Unreported	.....	401	.....	196	.....	2,894	815	603	4,312	.....	.....	1,258	.....	91	.....	35
*Estimated Total U.S. February 29, 1936	3,869	3,869	.....	2,870	.....	44,865	19,725	6,994	71,584	.....	.....	95,856	2,214	2,214	.....	585
*Estimated Total U.S. February 22, 1936	3,869	3,869	.....	2,850	.....	42,938	19,368	7,047	69,353	.....	.....	96,586	2,214	2,214	.....	580
U. S. B. of M., February, 1935	.....	.....	.....	2,529	.....	†38,548	†21,391	†5,949	†64,888	.....	.....	†101,085	.....	.....	.....	537

*Bureau of Mines basis currently estimated. † As of February 28, 1935. On March 31, 1935, total stocks of Finished and Unfinished gasoline were 66,239,900 barrels.

week hence. The Bureau of Mines assigned a quota of 506,300 barrels daily to Oklahoma for March.

Kansas production last week, averaging 141,100 barrels daily, was about 8000 barrels a day lower than in the previous week, and 900 barrels under the daily average allotted to the state for March.

Texas Under Quota

Texas output rose about 4000 barrels last week, to a daily average of 1,080,600 barrels, and was about 24,000 barrels a day under the Texas quota for March. However, as in the case of Oklahoma, higher allowables for March were not fully reflected in this figure for Texas.

Louisiana last week continued to show a greater excess than any other state over the Bureau of Mines recommendations. The state averaged 201,900 barrels daily, compared with 206,500 barrels per day the previous week, and a federal allocation of 151,400 barrels daily. The Louisiana state authorities did not fix the March allowable nearly as low as the Bureau of Mines recommendation, however, and the state was producing last week about in accord with the state allowables.

STOCKS DOWN

THE Bureau of Mines report on crude petroleum stocks for the week ended February 22 showed 310,665,000 barrels on hand in the United States, or 483,000 barrels less than a week previously. The decline comprised decreases of 323,000 barrels in stocks of domestic crude and 160,000 barrels in stocks of foreign crude.

A. P. I. MEETING

Los Angeles.—Dean Sheldon, Union Oil Company of California, is scheduled to present a paper at Long Beach, March 10, before the Los Angeles Basin Chapter of the Division of Production of the American Petroleum Institute on the subject, "Recent Developments in Cementing Practices".

The meeting, which is open to non-members also, will be held in the recreation hall of Shell Oil Company.

Two other papers on the program are: "Modern Refining of Petroleum", by Don Cameron, Union Oil Company, and "Long Beach's Two-Way Police Radio", by Lieutenant C. E. Peterson, Long Beach police department.

Supplemental California Schedule

Fields listed below were not included in new schedule February 26, 1936, and prices are those effective since December 6, 1935.

	Signal Hill	Alamitos Heights	Huntington Beach	Playa del Rey	Dominguez	Santa Fe Springs	Kern Front	Elk Hills	Lake View
14–14.9	$ .75	$ .74	$ .73	$ .75	.....	.....	$ .65	$ .65	$ .65
15–15.9	.75	.74	.73	.75	.....	.....	.65	.65	.65
16–16.9	.75	.74	.73	.75	.....	.....	.65	.65	.65
17–17.9	.75	.74	.73	.75	.....	.....	.65	.65	.65
18–18.9	.75	.74	.73	.75	.....	.....	.65	.65	.65
19–19.9	.75	.74	.74	.76	.....	.....	.65	.66	.65
20–20.9	.76	.74	.76	.79	.....	.....	.....	.68	.66
21–21.9	.78	.74	.78	.81	.....	$ .73	.....	.71	.68
22–22.9	.80	.74	.80	.84	.....	.73	.....	.74	.71
23–23.9	.82	.77	.82	.86	$ .79	.73	.....	.77	.74
24–24.9	.84	.80	.84	.88	.81	.75	.....	.80	.77
25–25.9	.86	.82	.86	.91	.83	.77	.....	.83	.80
26–26.9	.88	.85	.88	.93	.86	.79	.....	.86	.83
27–27.9	.90	.88	.90	.....	.88	.82	.....	.88	.86
28–28.9	.92	.90	.91	.....	.90	.84	.....	.91	.88
29–29.9	.94	.93	.93	F.O.B.	.93	.86	.....	.94	.91
30–30.9	.96	.95	.95	Pipe	.95	.89	.....	.97	.94
31–31.9	.....	.....	.....	Line	.97	.91	.....	.99	.97
32–32.9	.....	.....	.....	.....	1.00	.93	.....	1.02	.99
33–33.9	.....	.....	.....	.....	.....	.95	.....	1.04	1.02
34–34.9	.....	.....	.....	.....	.....	.98	.....	.....	1.04
35–35.9	.....	.....	.....	.....	.....	1.00	.....	.....	.....
36–36.9	.....	.....	.....	.....	.....	1.02	.....	.....	.....
37–37.9	.....	.....	.....	.....	.....	1.04	.....	.....	.....
38–38.9	.....	.....	.....	.....	.....	1.07	.....	.....	.....
39–39.9	.....	.....	.....	.....	.....	.....	.....	.....	.....
40–40.9	.....	.....	.....	.....	.....	.....	.....	.....	.....

CRUDE OIL PRICE QUOTATIONS

(Figures Represent Basic or Flat Prices—Revised to March 6, 1936)

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28—$0.94	2¢	40—$1.18	1- 9-36
N. and N.-C. Texas	28— .84	2¢	40— 1.08	1- 9-36
Texas Panhandle				
Gray County	34— .86	2¢	40— .98	1- 9-36
Carson-Hutchinson	34— .81	2¢	40— .93	1- 9-36
West Texas				
Ector, Pecos, W'kler Crane, Upton, Howard and Glasscock	29— .76	2¢	36— .90	1-14-36
West Central Texas	28— .84	2¢	40— 1.08	1- 9-36
East Central Texas	28— .91	2¢	40— 1.15	1- 9-36
East Texas	*1.15			1- 9-36
Texas Gulf Coast				
Anahuac-Dickinson	30— 1.04	2¢	40— 1.24	1- 9-36
Conroe	35— 1.24	2¢	40— 1.34	1- 9-36
Tomball	*1.30			1- 9-36
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake, Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge	Below 17— .88	2¢	34— 1.22	1- 9-36
South and S. W. Texas	Below			
Refugio (Light)	17— .88	2¢	34— 1.22	1- 9-36
Refugio (Heavy)	*.90			1- 9-36
Saxet	*.90			1- 9-36
Mirando	*.85			1- 9-36
Pettus	*1.25			1- 9-36
Salt Flat	*.97			1-14-36
Darst Creek	*.97			1-14-36
Port Lavaca	*.97			
Plymouth	*.90			12-17-35
Arkansas				
El Dorado (Light) and Rainbow	25— .78	2¢	40— 1.10	1-10-36
El Dorado East Field and Smackover	*.75			1-10-36

* All gravities—flat rate.
† Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
North Louisiana	25—$0.78	2¢	40—$1.10	1-10-36
Urania	*.97			1-10-36
South Louisiana	Below			
Lockport	19— .92	2¢	34— 1.22	1- 9-36
Iowa, Cameron Mds.	Below 19— .82	2¢	34— 1.12	1- 9-36
Rocky Mountain States				
Salt Creek	29— .94	2¢	40— 1.18	1-10-36
Elk Basin	*1.28			1- 9-36
Grass Creek (Light)	*1.28			1- 9-36
Grass Creek (Heavy)	*.58			1- 9-36
Big Muddy	*1.11			1- 9-36
Rock Creek	*1.12			1- 9-36
Sunburst	*1.25			1- 9-36
Lance Creek	*.90			1- 9-36
Osage	*1.08			
Cat Creek	*1.07			8-25-33
Cut Bank	*1.45			9-29-33
Pondera	*1.05			9-29-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	*.75			9-29-33
Mid-West States				
Lima	*1.25			1-10-36
Illinois	*1.23			1- 9-36
Princeton	*1.23			1- 9-36
Western Kentucky	*1.23			1- 9-36
Pennsylvania				
Bradford	*2.45			1-13-36
Sw. Pa. Pipe Line	*2.17			1-13-36
Eureka Pipe Line	*2.12			1-13-36
Buckeye Pipe Line	*1.97			1-13-36
Corning Grade	*1.42			1-13-36
Michigan				
Central Michigan	*1.12			11- 7-35
Muskegon	* 70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

* All gravities—flat rate.
‡ Average price, all oil sales being to small refineries.

MAJOR PRICE CHANGES

	Penna. (Nat. Tr.)	Mid.-Cont. (36 Gr.)	Calif. (26 Gr.)
June 19, 1933	Up 10	Up 19	
June 26, 1933	Up 10		Up 9-12
July 6, 1933	Up 13	Up 10	
July 17, 1933	Up 15		
July 28, 1933	Up 15		
August 11, 1933	Up 10		
August 24, 1933		Up 10	
August 30, 1933	Up 15		
September 6, 1933	Up 10	Up 10	Up 15
September 8, 1933		Up 15	
May 1, 1934	Up 10		
November 6, 1934	Cut 25		
December 6, 1934	Cut 25		
January 4, 1935	Up 15		
February 4, 1935	Up 15		
May 16, 1935	Cut 15		
June 26, 1935	Cut 15		
July 16, 1935	Cut 10		
August 29, 1935			Cut °46
September 6, 1935	Up .5		
October 29, 1935	Up 15		
November 1, 1935			Up °28
November 18, 1935	Up 15		
December 6, 1935			Up °9
January 9, 1936		Up 10	
January 13, 1936	Up 15		
February 26, 1936			Up '5

CRUDE PRODUCTION TAXES

Oklahoma—Five percent of gross value less royalty interest.

Texas—Two cents or 2 percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Two percent of gross value at well and 3⅛ of 1c per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

* All gravities—flat rate.
° Signal Hill 26 gravity.
' Seal Beach 26 gravity.

CALIFORNIA OIL PRICES

(All gravities above those quoted take highest prices of that field. Effective February 26, 1936)

Gravity	Signal Hill*	Seal Beach Alamitos Heights*	Huntington Beach*	Inglewood	Playa Del Rey*	Olinda Brea Canyon	Athens Rosecrans Dominguez*	Elwood Terrace	Torrance	Richfield	Whittier East Coyote La Habra	Montebello	West Coyote Hills	Santa Fe Springs*	NewHall McKittrick Kern River Round Mountain	Mountain View	Midway-Sunset Elk Hills* Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	....	$.79	....	$.79	....	$.76	....	....	$.80	$.76	$.76	$.77	$.78	....	$.70	....	$.70	$.70	$.70	....
15-15.9	....	.79	....	.79	....	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	.70	....
16-16.9	....	.79	....	.79	....	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	.70	....
17-17.9	....	.79	....	.81	....	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	.70	....
18-18.9	....	.79	....	.84	....	.78	....	....	.82	.76	.76	.77	.78	....	.70	....	.70	.70	.70	....
19-19.9	....	.79	....	.87	....	.81	....	....	.85	.76	.78	.77	.78	....	.70	$.70	.74	.74	.71	$.70
20-20.9	....	.79	....	.90	....	.84	....	....	.88	.78	.82	.77	.80	....	....	.70	.78	.78	.72	.70
21-21.9	....	.79	....	.93	....	.88	....	....	.91	.80	.85	.77	.84	....	....	.73	.82	.82	.74	.70
22-22.9	....	.82	....	.96	....	.92	....	....	.93	.84	.89	.79	.88	....	....	.77	.87	.86	.78	.72
23-23.9	....	.86	....	.99	....	.96	$.84	....	.96	.88	.93	.82	.92	....	....	.80	.92	.90	.82	.76
24-24.9	....	.91	....	1.02	....	.99	.88	....	.99	.91	.96	.85	.96	....	....	.84	.97	.94	.86	.79
25-25.9	....	.95	....	1.05	....	1.03	.93	....	1.02	.95	....	.89	.99	....	....	.88	1.01	.98	.90	.83
26-26.9	....	1.00	....	1.09	....	1.06	.98	....	1.05	.98	....	.92	1.03	....	....	.91	1.06	1.02	....	....
27-27.9	....	1.05	....	1.12	....	1.10	1.03	....	....	1.02	....	.96	1.06	....	....	.95	1.10	1.06	....	....
28-28.9	....	1.10	....	1.15	....	1.14	1.07	....	....	1.06	....	.99	1.10	....	....	.99	1.15	1.10	....	....
29-29.9	....	1.15	....	1.18	....	1.17	1.12	....	....	1.09	....	1.03	1.14	....	....	1.02	1.20	1.14	....	....
30-30.9	....	1.19	....	1.21	....	1.21	1.17	F.O.B.	....	....	....	1.07	1.17	....	....	1.06	1.25	1.18	....	....
31-31.9	....	....	....	1.24	....	1.24	1.22	Ship	Kettelman Hills			1.11	1.21	....	....	1.09	1.29	....	....	....
32-32.9	....	....	....	1.27	....	1.27	1.27	....				1.14	1.25	....	....	1.13	1.34	....	....	....
33-33.9	....	....	....	....	....	....	1.32	$1.28		1.19		1.18	1.28	....	....	1.17	1.38	....	....	....
34-34.9	....	....	....	....	....	....	1.37	1.32	....	1.23	....	1.22	1.32	....	....	1.20	....	....	....	....
35-35.9	....	....	....	....	....	....	1.42	1.35	....	1.27	....	1.25	....	....	....	....	....	....	....	....
36-36.9	....	....	....	....	....	....	1.46	1.39	....	1.31	....	1.29	....	....	....	....	....	....	....	....
37-37.9	....	....	....	....	....	....	1.51	1.43	....	1.35	....	1.32	....	....	....	....	....	....	....	....
38-38.9	....	....	....	....	....	....	1.56	....	....	1.39	....	1.36	....	....	....	....	....	....	....	....
39-39.9	....	....	....	....	....	....	1.61	....	....	1.43	....	1.40	....	....	....	....	....	....	....	....
40-40.9	....	....	....	....	....	....	1.66	....	....	....	....	1.43	....	....	....	....	....	....	....	....

*The following fields are not being advanced at the present time: Signal Hill, Alamitos Heights, Huntington Beach, Playa del Rey, Dominguez, Santa Fe Springs, Elk Hills, Kern Front and Lakeview Area of Midway-Sunset. See Supplemental schedule on page 46.

WORLD DEVELOPMENTS and TECHNOLOGY

Edited by
WM. V. GROSS, Associate Editor

Southeast Africa

OIL POSSIBILITIES TO BE TESTED BY WELL UNDERWAY

By L. G. PUTMAN, Resident Geologist, Inyaminga Petroleum, Ltd.

THE first well equipped and geologically justified deep test in the southern and eastern parts of the African continent is now, February, 1936, well under way and should be approaching the interesting stage of its development.

At location No. 5 of Inyaminga Petroleum (1934) Ltd., situated near the station of Inhaminga about 113 miles north of Beira, Portuguese East Africa, a 122-foot derrick with rotary rig and four 70 horsepower boilers was installed and drilling commenced on August 15, 1935. Five hundred and eighty-eight feet of 20-inch casing and 3305 feet of 13⅜-inch casing have been landed and cemented and as of date the hole is drilling ahead at 3800 feet. Intermittent coring was commenced at 600 feet and continuous coring at 2500 feet and the latter will be the policy followed hereafter.

Historical

The presence of a structural break in the regional southeastward dip was noted in 1912 and further investigated in 1921, at which time Mr. F. P. Mennell, a Rhodesian engineer, recognized the suitability of the structure as a possible oil reservoir. A company was formed and a concession covering the Mocambique Company's administrative concession from the Portuguese government was obtained. Three structural test holes were put down and followed by a fourth intended as a try for oil. The equipment used, however, was not designed for deep drilling and that attempt was ended by mechanical and financial difficulties in the early part of 1932. In 1934 Inyaminga Petroleum (1934) Limited, was reorganized and adequately financed and operations were resumed with D. Dale Condit, chief geologist of Oil Search, Ltd., of Australia, as geological and operating consultant. Under his direction further geological and geophysical investigations were carried out, the location of No. 5 was made, the present rig was purchased, and an experienced American crew, headed by Mr. C. R. Smith, was brought out.

Geological

Detailed geological work done by the author, supplemented by gravimetric and seismograph surveys, showed that a fault structure having a marked similarity to those of the Mexia-Tehuacana fault zones is present. The surface structure as mapped on a basal chalk key bed by plane table has a length of 34½ miles, a width varying from zero at the northeastern and southwestern plunge closures to three miles along its widest part. The dip on the plunge closures and on the southeastern flank varies from 75 to 100 feet per mile. Northwestern closure is afforded by a persistent fault zone within which are several well defined normal faults, with an en echalon arrangement downthrow to the northwest, having a vertical displacement of from a few to 700 feet. The evidence indicates that the faults are steeply dipping. No. 5 location was made 800 feet southeast of the easternmost fault and opposite the area of the beginning of the northeastern plunge, as shown by the key bed mapping. Surface structural closure appears to be in the neighborhood of 200 feet.

The structure is apparently part of the Great Rift system of eastern Africa, although toward the southern end of one of its major developments. To the northeast is the basin of the Zambese, to the southwest that of the Pungwe,

Oil Embargo Possible

ENGLAND INSISTS PLANS GO ON REGARDLESS OF NEGOTIATIONS

Preparation of a detailed plan for applying an oil embargo against Italy, when and if it is voted by the League of Nations, is under way by one of the subcommittees of the technical division of the Sanctions Committee of the League, despite press dispatches from Geneva March 5, telling of unqualified acceptance of the League's peace plea by Emperor Haile Selassie of Ethiopia and hinting of qualified acceptance of the plea by Italy.

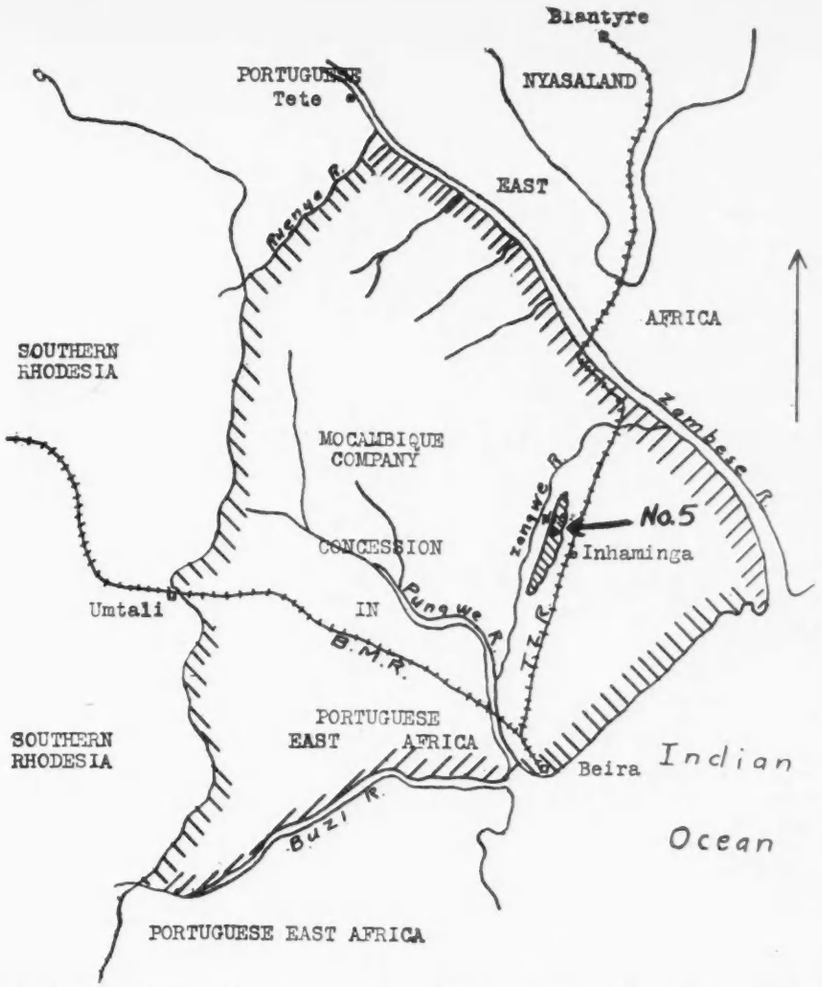
Mussolini is not expected to reply to the League's proposals until after his cabinet meeting March 7. Whether the embargo plan will be put into effect depends upon the Italian Premier's reaction to efforts made by the League for immediate opening of negotiations for settlement of the Ethiopian problem and cessation of hostilities. Replies of Italy and Ethiopia to peace proposals of the League will be officially considered by the conciliation committee March 10.

Renewed efforts at conciliation on the part of the League were agreed to by Sir Anthony Eden, representing England, only on conditions that plans for effective enforcement of the oil embargo against Italy proceed unabated pending a definite answer from Italy.

In this connection, dispatches from Rome on March 5 indicated opinion there was that Italy was prepared to announce qualified acceptance of the League of Nation's appeal for peace in Africa. Further, on March 2, at Geneva a spokesman for the Little Entente is credited with having stated information received from Romania, Yugoslavia and Czechoslovakia pictured Italy as already feeling keenly those economic sanctions now in effect.

One marked change has come about in the attitude of the League on the oil embargo question. England definitely has sponsored application of the oil embargo without making the action contingent on the policy of the United States. Doubt on the part of member nations as to just what position the United States, a nonmember of the league, would assume in the matter has heretofore exerted a delaying influence on application of the embargo. The nearest thing to a definite stand taken by the United States thus far, aside from that relating specifically to war supplies, has been President Roosevelt's plea to American business that there be no increase in shipments of raw materials to Italy.

Finally, it appears that if peace is brought about between Italy and Ethiopia, the embargo question will automatically die, and if war continues beyond March 10, the embargo will go into effect.



Sketch map of oil and coal concession of Inyaminga Petroleum in Portuguese East Africa.

and to the northwest is a 30-40 mile wide sunken area of no outcrop. To the southeast the tilted peneplain slopes gradually to the coast. The elevation of the highest part of the uplift formed by the faulting movements is about 1000 feet, that of the bordering lowlands less than 300 feet in their highest parts. The age of the faulting now observable is geologically quite late, but it is believed that the movements had their inception in Mesozoic times.

The geologic column as observable is, (1) Inhaminga Grits, age unknown, (2) Eocene limestone, (3) Upper Cretaceous chalk, (4) Cretaceous grits. Below are Jurassic beds and members of the Karroo systems, Triassic to Upper Carboniferous. None of the above series appears to have undergone in this area any prohibitive degree of metamorphism. The Jurassic is definitely marine in the northeastern part of Portuguese East Africa and in eastern Tanganyika, as well as in Madagascar where seepages are present near its base, and this area would appear to belong within the same basin. No. 5 probably starts about 200 feet below the base of the chalk.

Developments to Date

There are some indications that No. 5 is approaching the base of the Cretaceous Grit series and should soon be entering the Jurassic, within which may be hoped for the first chances of success. Failing this, there are below parts of the Karroo which to the northwest appear to be of estuarine origin and may easily be of marine origin under the Inhaminga structural area and to the southeast of it. There is also an indication, based on lithologic correlation, that No. 5 is appreciably structurally higher than No. 4, which was located about 1½ miles southeast of the fault zone. There would appear to be, therefore, nothing discouraging in the results of operations to date.

Should a thorough test of the structure now being drilled fail to develop commercial production there remains the area to the southeast, about 100 by 60-80 miles, in which the possibilities would be enhanced by its more basinward position and by the presence under cover of the marine Eocene and Cretaceous chalk.

Inyaminga Petroleum (1934) Ltd. is adequately financed to carry to conclusion the present projects. It would appear, therefore, that this area, which is the only one in the southern part of the African continent, with the exception of Angola, in which an attempt is geologically justifiable, is going to receive a thorough test of its petroleum possibilities.

WORLD OIL RESERVES

To be subject in Moscow at seventeenth congress

Special attention will be given to the study of world oil reserves at the Seventeenth International Geological Congress to be held in Moscow, U.S.S.R., during the summer of 1937, according to a circular received from the organization committee under direction of I. M. Goubkin.

"It should be frankly stated," says the committee's circular, "that mankind has no knowledge of the reserves of oil it possesses. No definite figures of oil reserves are available even for individual countries. Even such a country as the United States does not dispose either of firmly established figures of its oil reserves, or of any exact method for their calculation.

"In the U.S.S.R. calculations made by different experts afforded divergent results. The organization committee takes the opportunity to present this problem for discussion to the petroleum geologists of the world, although it is fully aware of all the difficulties involved."

In the beginning of 1936 a scheme of the type of method of calculation (of reserves) will be finally elaborated and properly distributed, according to the committee.

On the subject of the "Problem of Petroleum and Petroleum Resources of the World", those in charge of the program of the Seventeenth International Geological Congress expect to be in a position to have presented papers on the following topics: "On the Origin of Oil and the Formation of Oil Deposits", "The Origin of Oil in the Oil Fields of the North Caucasus", "Methods of Calculating Industrial and Geological Reserves of Oil", "The Industrial and Geological Oil Reserves of the World", and "Special Reports on the Geology of Oil Deposits and on the Prospects of Their Future Development".

CANADA

Preliminary figures of the mining, metallurgical and chemical branch of the Dominion bureau of statistics reveal a slight increase in crude oil production in Canada for the past year, 1,439,662 barrels having been recovered in 1935 as against 1,422,869 barrels in 1934.

In November Alberta produced 103,952 barrels consisting of 100,751 barrels of crude naphtha and 1264 barrels of light crude oil from the Turner Valley field, 1459 barrels of light crude oil from the Red Coulee field, and 478 barrels of heavy crude oil from the Wainwright field.

Canada imported petroleum, asphalt and their products to a value of $4,918,747 in November as compared with $5,117,182 in the preceding month. The November importations were obtained from the following countries: the United States, 67.8 percent; Peru, 13.7 percent; Colombia, 11.6 percent; Venezuela, 4.0 percent; Dutch West Indies, 2.1 percent; and Germany, Russia, India, Great Britain, Belgium, France, Alaska, Sweden, Japan and China, the remainder. Imports of crude petroleum in November advanced 2.7 percent to 137,399,424 gallons and consisted of 90,-

557,834 gallons from the United States, 19,750,390 gallons from Colombia, 15,803,797 gallons from Peru and 11,287,403 gallons from Venezuela.

Figures released by the Alberta department of mines recently indicated a production of 1,263,750 barrels of oil in that province during 1935 as compared with 1,265,940 barrels in 1934.

Production of Petroleum in Canada, by Months

Month	1935* Barrels	1934 Barrels
January	124,654	124,364
February	111,545	116,523
March	120,537	130,007
April	113,685	118,859
May	123,801	117,660
June	120,119	110,115
July	118,812	122,067
August	117,652	115,911
September	123,918	115,011
October	122,525	122,023
November	116,756	113,196
December	125,658	117,133
TOTAL—Calendar Year..	1,439,662	1,422,869

*Subject to revision.

Production of Petroleum in Canada

	Eleven Months Ending November 1935 Barrels	1934 Barrels
New Brunswick	9,955	10,120
Ontario	150,417	131,042
Alberta—		
Turner Valley, naphtha..	1,102,002	1,109,128
Turner Valley, light crude	17,383	20,206
Red Coulee-Border-Keho, light crude	19,063	19,288
Wainwright, heavy crude.	13,620	11,004
Skiff, heavy crude	1,564	510
TOTAL ALBERTA*	1,153,632	1,160,136
CANADA	1,314,004	1,305,736†

*Total well output.
†Includes output from the North West Territories.

TRINIDAD

Final figures for crude oil production in Trinidad, British West Indies, for January, 1936, showed a total of 1,079,082 imperial barrels, an amount which created a break in the upward trend of Trinidad's production curve which had continued unabated from September through December, 1935, according to the Trinidad mines department.

Total oil recovered in Trinidad in January was exceeded only by one month in 1935, that month being December, which was the peak month of last year.

Production in Trinidad in 1935 and 1936 by months (figures in imperial barrels) follows:

Month	1935	1936
January	915,220	1,079,082
February	843,619	.....
March	919,848	.....
April	909,946	.....
May	953,108	.....
June	972,904	.....
July	988,341	.....
August	1,003,382	.....
September	992,445	.....
October	1,105,492	.....
November	1,078,957	.....
December	1,086,375	.....
Cumulative Totals.	11,678,637	1,079,082

MEET AT TULSA

Institution plans first session in United States

Tulsa.—The Institution of Petroleum Technologists, an oil trade association with headquarters in London, England, will hold a meeting of its members from over the entire world in Tulsa May 15 in conjunction with the International Petroleum Exposition.

S. J. Astbury, secretary of the Institution, stated that this will be the first time a meeting of the members has been held in the United States.

Other important oil association meetings to be held in Tulsa in conjunction with the exposition May 16 to 23 will include the American Petroleum Institute, Independent Petroleum Association of America, Natural Gasoline Association of America, and the National Stripper Well Association.

BRUCHSAL CELEBRATES

Bruchsal, in Baden, Southwest Germany, recently had a civic celebration in honor of shipment of the hundredth tank car of crude oil from that field, located in a portion of the nation which is notorious for being almost barren of mineral resources.

Bruchsal is within the Rhine graben and was discovered in the interim March 1, 1934, and March 1, 1935, by Itag Company, which has subsequently developed Lower and Middle Oligocene production. Geology of the field is similar, it is thought, to that of Pechelbronn field in France.

IRAN OUTPUT

Production of crude oil and gasoline in Iran during January, 1936, totaled 661,000 tons, or about 3,966,000 barrels, according to figures received from Anglo-Iranian Oil Company, Ltd. Gasoline included with the above crude production is negligible.

STATE LEASES

Austin.—State Land Commissioner J. H. Walker announced last week awards of leases on 34,961 acres of submerged state lands located in the Turtle Bay area in Galveston and Chambers Counties.

Leases on 53 tracts were let, bringing bonuses of $577,284.87 and oil payments of $2,209,010.

Humble Oil & Refining Company leased 12 tracts totaling 76,808 acres, for which $1,056,940 was paid as bonus. Humble Oil & Refining Company also agreed to give 7/48ths royalty and pay $1,563,000 out of one-fourth of the remaining 41/48ths.

Sun Oil Company leased five tracts totaling 39,758 acres, for which they paid $1,333,760 with one-eighth royalty and a payment of $266,560 out of one-eighth of the remaining seven-eighths.

Gulf Oil Corporation leased 1225 acres in two tracts, paying $1998 bonus and $61,250 in an oil payment specifying that this should be at the rate of $50 per acre on 20-acre units.

Amerada Petroleum Corporation leased two tracts totaling 1212 acres paying a bonus of $1,602.72.

Tide Water Oil Company leased one tract of 756 acres, paying $982.80.

The Texas Company leased one tract of 640 acres, paying $21,363.20 bonus, one-eighth royalty and $28,800 from one-fourth of seven-eighths of the oil.

C. R. Wharton leased five tracts totaling 3200 acres on which bonus of $18,630 was paid.

W. R. Harris leased two tracts totaling 244 acres, paying $1,380.84 bonus, one-sixth royalty and an oil payment of $248,000 from one sixty-fourth of the production.

Sinclair-Prairie Oil Company purchased 414 acres in one tract, paying $2926.98 and $41,400 out of three-sixteenths of seven-eighths of the production.

T. A. Knight leased 8084 in 12 tracts, paying $280,091.88. He offered one-sixth royalty on 11 of these tracts and one-eighth on the 12th.

Salt Dome Oil Company leased 10 tracts, consisting of 6531 acres, on which a bonus of $103,979 was paid in addition to one-sixth royalty.

TEAPOT DOME SUIT

Los Angeles.—The famous Teapot Dome scandal of 15 years ago was reopened March 5 when the federal government filed suit to recover $5,188,000 from the estate of the late Edward L. Doheny. The complaint, involving an alleged balance due on settlement of Teapot Dome claims, reviewed charges of conspiracy to gain control of naval petroleum reserves, contained in the original Teapot Dome case. The government suit stated it originally filed for return of $9,282,651 in principal and $1,597,374 in interest due on oil leases. On May 14, 1935, the government received $5,500,000 and prior to that date received $191,214, leaving an asserted balance of $4,188,721, plus interest.

TEXAS HEARING

Austin.—The Texas Railroad Commission has called its monthly statewide hearing to be held at Austin on March 18.

The Yates hearing which was scheduled for March 3, has been postponed until the day of the state-wide hearing. One group of operators in the Yates Field has applied to the commission for revision of the method of allocation in that field to reduce the allowables made to wells on very small tracts.

HOT OIL QUIZZ

Longview.—The Texas house hot oil investigation committee grilled three witnesses March 4 about alleged ficticious oil companies operating in the East Texas field. The committee, through testimony, sought to learn who owns and operates several companies.

The committee, headed by Augustine Celaya, is delving into charges that many of the oil companies named on the tax reports do not exist, and that taxes are paid merely to move illegally produced oil.

Oklahoma Quiet

STATE OPERATIONS ARE ONLY ROUTINE DURING PAST WEEK

WEEKLY STAFF REPORT

Tulsa.—From the standpoint of important happenings at wildcat tests or the increase in field activity which has been expected the past week can be classified as very dull in Oklahoma oil development. From the southern part of the state came reports of continued leasing plays as important exploratory tests had overcome mechanical difficulties and were drilling ahead. Another showing of oil in a Garvin County wildcat, which the week before had created great disappointment probably was the high point of the week in the exploratory field.

Scouts reported 33 new operations and 41 completions compared to 37 starts and 35 completions during the preceding week. Pontotoc County again led the state in new work with seven first reports; Seminole County was second with six; Okmulgee County had four; Carter and Osage Counties, three each; Stephens, Hughes and Creek Counties, two each, and Harmon, Bryan, Caddo, and Oklahoma Counties, one each. The 41 completions included 25 oil wells, two gas wells, 13 dry holes and one abandoned location all of which involved 100,317 feet of drilling, including 3140 feet in three wildcats and 1113 feet in four old wells.

NEW CITY WELL

Mansion area receiving another large producer

Oklahoma City.—An interesting situation has developed in connection with Phillips Petroleum Company and Black Gold Petroleum Company's Sawyer 1, SE NE NE 22-12n-3w, in the north extension or "Mansion Area" of the Oklahoma City pool. The test, several locations north of the present productive limit and one which may determine to a considerable extent the future development in that direction, topped Wilcox sand at 6384 feet and was drilled to 6400 feet. When operators were ready to drill the plugs and test they were notified by the city engineering department that the well extends four feet over into property owned by the municipality. Some agreement was expected to be reached late in the week so that operations can be resumed.

British American Oil Producing Company's Piersol 5, NW SW SW 23-12n-3w was due to give the "Mansion Area" potential a big boost late in the week, when it was flowing at the rate of 320 barrels of oil per hour and making gas at the rate of 26,000,000 cubic feet while drilling under pressure control at 6386 feet, 42 feet below top of the Wilcox sand. This firm's Piersol 3, is the largest well in the extension with a potential of 27,812 barrels.

Barnsdall Oil Company and Fairfax Oil Company's Bracht 1, also in the extension, showed a considerable improvement over its initial performance when it was gauged for new potential and yielded 10,274 barrels flowing naturally through casing. On its initial gauge it produced 4332 barrels on gas lift.

British American's Hampton 1, NW NW SW 23-12n-3w, was installing pressure control equipment and preparing to drill in at 6394 feet. The same operator's Burnham 1 and 2 were new rigs. Winders 1, SE SW SW 23-12n-3w, had drill pipe stuck at 6185 feet; Powell 1, NE NE SE 22-12n-3w, was drilling below 1050 feet; Roanoke 1, NE NE SE 22-12n-3w, was drilling below 3400 feet; Russell 1, SE SE NE SE 22-12n-3w, was drilling below 5675 feet; Piersol 4, NE SE SE 22-12n-3w, was drilling below 6000 feet; and Piersol 2, NW SE SE SE 22-12n-3w, was drilling below 2100 feet.

Barnsdall Oil Company and Fairfax Oil Company's Bracht 3, NE SW SW 23-12n-3w, was drilling below 5155 feet; Bracht 4, SE SE NW SW 23-12n-3w, was drilling below 4300 feet; and Bracht 6, NW SW SE SW 23-12n-3w, was drilling below 3000 feet. In the McNabb Park area in the north Barnsdall Oil Company was reaming to 1022 feet to set surface pipe in Banks-Geyer 1, SE SE SW SE 15-12n-3w; and Robert M. Murray and associates had completed digging pits for Wheeler 1, SE SE SW 15-12n-3w.

Moore Area

In the Moore area, four and one-half miles southeast of production in the Oklahoma City pool, but over the line in in Cleveland County, Sinclair Prairie Oil Company et al were drilling below 6730 feet in Marvel 1, NW SW NE 21-10n-2w. It is within about 500 feet of the point where the discovery well found second Wilcox sand and was completed for a big gas well with a high distillate content. A deep dry hole was drilled one-half mile southwest of the discovery well on the community block and another slightly over a mile to the southeast and just outside of the community block. Where the accumulation lies is a puzzle to geologists but some students of the area are of the opinion that a cross-fault separates the Moore pool from the Oklahoma City pool.

Edmond-Britton District

In the Edmond pool four miles west of Edmond in northwestern Oklahoma County, Marathon Oil Company drilled to 6675 feet in Dahl 9, SW NW SE 31-14n-3w. It was washed in for a small showing of oil and about 1,000,000 cubic feet of gas, acidized with 2000 gallons of hydrochloric acid and late in the week was awaiting the reaction. The same operator's Dahl 10, NE SE SE 31-14n-3w, northwest diagonal offset to the discovery well, drilled to 6533 feet, set seven-inch casing at 6500 feet and was waiting on cement to set. This test will be watched with considerable interest since it missed considerable section above the Wilcox sand and on top of the sand is structurally the next to the highest point so far encountered in the pool. It is near a supposed northwest-southeast trending fault.

Watch South Tests

SEVERAL WILDCATS NEARING DECISIVE FORMATIONS

Ardmore.—Reports from southern Oklahoma wildcats were somewhat more favorable than during the preceding week. Despite the failure of any of the exploratory tests to show anything big since last October, when gusher production was found in the old Fox pool of northwestern Carter County, an active leasing campaign continues and several deals for new tests are rumored to be in the final stages.

Carter Oil Company et al's Williams 1, SW NE SW 27-2s-3w, Simpson discovery well in the old Fox pool, was drilling below 7750 feet after overcoming difficulty by plugging back to 7300 feet to stay out of the old hole in which several hundred feet of drill pipe was left several months ago. The well now is within 338 feet of the total depth at which it blew out and flowed wild for almost a week at a gusher rate with drill pipe in the hole. One mile to the west Gulf Oil Corporation (Gypsy) has completed as a gas well its Fitzgerald 3, SE NW SE 28-2s-3w. It was drilled to 3035 feet, treated with 1000 gallons of acid and completed for 3,000,000 cubic feet of gas with a small amount of oil. Identification of the producing horizon has not been reported but it undoubtedly is in the upper part of the Fox Pennsylvanian section and probably flanking the structure on the west. It originally was reported that Fitzgerald 3 would go to the Simpson zone.

One-half mile southeast of production

in the old Bayou or southeast Hewitt pool in western Carter County, The Texas Company and J. H. Hudson's Cathey 1, SE NE NE 6-5s-1w, yielded six barrels per hour of low gravity oil on a pumping test. Production is from sands cored between 4098 and 4118 feet and 4135 to 4157 feet. So far as can be determined at this time this horizon has not produced elsewhere in the pool nor in the county. Total depth is 4164 feet.

In the old Healdton pool, also in western Carter County, Sinclair Prairie Oil Company was drilling below 3115 feet in lime in Million-Thomas 22, SE NW SW 5-4s-3w. The well heads and flows as much as 45 barrels per day and probably could be completed commercially at the present depth by treating with acid. It is producing from some member of the Simpson group.

Sixteen miles northwest of Marietta in northwestern Love County, Sinclair Prairie Oil Company's Stockton 1, SE SE SW 26-6s-2w, encountered showings of oil and gas and cemented seven-inch casing at 6893 feet. This test at one time reached 7165 feet where drill pipe was stuck and several hundred feet of hole lost when the pipe could not be recovered. It is scheduled to go to 8000 feet in event commercial production is not found above that point. Several nice showings of oil and gas have been tested by electric logging surveys but this is the first time that operators have set casing to test.

Six miles northeast of Marietta in the northeastern part of the county, Amerada Petroleum Corporation and Stanolind Oil and Gas Company discontinued drilling at 6797 feet and were to run two strings of casing in Westheimer 2, SW SE SW 27-6s-2e. The first string will be cemented near the top of the Viola lime at 2427 feet and the second near the top of the Simpson group at 3515 feet. In the southern tip of Love County, J. B. Russell et al's Scott 1, SW SE SW 29-8s-2e, early in the week were drilling below 3800 feet in lime shells topped at 3770 feet. Reports on this test have been very few and incomplete but since it is now reaching an interesting depth it probably will be more closely watched.

Garvin County Showing

Suggett and McElreath's Hyre 1, NE NE SE 23-3n-1w, west of Pauls Valley in central Garvin County, has not passed out of the picture despite its failure to show anything but rotary mud, salt water and a scum of oil on a drill stem test from sand at 4109 to 4119 feet. Drilling and coring ahead operators recovered four inches of saturated sand between 4153 and 4170 feet and were making another drill stem test late in the week. The test is in about the center of a large block of acreage owned by the Pure Oil Company and in an area where many of the major companies own leases. Despite the previous unfavorable showing it was reported that lease and royalty trading was brisk in that part of the county.

Denver Producing and Refining Company was still trying to obtain production after washing in with high gravity oil and applying gas lift at Sah-Cam 1, C SE SE 33-10n-10w, 1000 feet southwest of the discovery well in the Binger pool of northeastern Caddo County. Sah-Cam 1 was deepened from 10,012 feet, where it was first tested to 10,084 feet, making it by far the deepest test in the Mid-Continent area and probably one of the most interesting.

W. H. Lee and associates have staked location for Walter Wright 1, NE NW SE 19-1n-20w, a wildcat operation approximately one and one-half miles north of the Tipton pool in eastern Jackson County. It is to be spudded within the next week or 10 days. In the Tipton pool Gulf Oil Corporation (Gypsy) had staked location for Boucher 4, NE SW SW 32-1n-19w, southwest diagonal offset to Boucher 3, which is now drilling below 2400 feet. Production in the pool is from the Cisco series and was a 1935 discovery for Oklahoma.

OKLAHOMA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO COUNTY—		
Magnolia, Duke 1, nw ne sw 35-5n-8w	*	1480
CARTER COUNTY—		
Schermerhorn Oil, Floyd Clowdus 1, nw nw ne 2-4s-2w	6	1019
COMANCHE COUNTY—		
Petty & Virtue, Mitchell 1, ne ne nw 10-3n-10w	*	1093
CREEK COUNTY—		
Lima O&G Co., Yarhola, ne ne sw 3-15n-7e	*	4051
Crosbie, Reynolds 1, sw sw ne 15-18n-8e (otd 2738)	*	3415
Peter Adamson, Jr., Weaver 5, cse se 5-18n-11e	6	1800
HUGHES COUNTY—		
Manahan Oil, Oliphant "C" 4, sw nw sw 1-9n-8e	105	1732
Oliphant "D", 1, nw se sw 12-9n-8e	288	1778
Hays Drlg. Co., Whittiker 1, ne ne ne 14-9n-8e	35	1895
JACKSON COUNTY—		
Gulf Oil Corp., Boucher 2, ne sw sw 32-1n-19w	180	2646
KAY COUNTY—		
Kansas-Oklahoma O&G, Dilworth 1-A, ce½ se ne 6-28n-1e	¶½	1016
Smith 1-A, cne ne 7-28n-1w (otd 945) (pb 945)	¶4/5	1445
KIOWA COUNTY—		
Adams et al, Stone 1, cse ne 34-7n-17w (pb 960)	25	1541
MARSHALL COUNTY—		
Lemond et al, Johnson 1, csl n½ nw 14-5s-5e	*	730
Felts, Fee 3, nw sw nw 6-8s-6e	*	560
Elmir-Gill, Lindecker 1, se se nw 7-8s-6e	*	580
NOBLE COUNTY—		
Phillips & Shell, McCaughtry 1, nw ne ne 21-23n-2w	¶39-33,840	4258
OKLAHOMA COUNTY—		
Westgate Oil, Carey 14, nw nw se 34-12n-3w	*2051	6539
OKMULGEE COUNTY—		
Ladd et al, Scott 1-A, se ne se 15-15n-14e	*	1600
OSAGE COUNTY—		
Southern Oil Corp. et al, Gilbert 1, sw sw se 36-26n-4w	*	5476
Comail Oil, 10, nw se sw 32-22n-8e	200	1824
M. & T. Oil, 5, ne sw sw 34-23n-9e	10	1039
Continental, 16, ne se ne 21-24n-7e	103	2643
2, ne ne se 21-24n-7e	*	2634
3, nw nw se 21-24-7e (otd 2700)	264	2703
PAWNEE COUNTY—		
Sand Springs Home et al, Blackburn 1, ne se ne 5-20n-7e	*	2809
Wasson & West, Sewall 1-A, sw se se 32-21n-8e	*	1445
PONTOTOC COUNTY—		
Delaney, Fox 1, sw ne se 2-1n-7e	*	lcn.
Blackstock, Daniels 1, se se sw 21-2n-7e (pb 3906)	1724	4478
Crosbie, Burris 2, se se nw 27-2n-7e	3858	4273
Magnolia, Burris 2, nw sw ne 27-2n-7e	3077	4242
Samedan Oil et al, Holkum 1, sw sw ne 27-2n-7e	3787	4275
Carter, Smith 7, se ne sw 28-2n-7e	2364	4331
Moore, Mack 2, se nw se 28-2n-7e	3553	4295
Moore et al, Wirick 8, sw ne sw 29-2n-7e	2693	4396
Moore, Woodroof 2, nw ne se 29-2n-7e (otd 4201)	3693	4334
Mary "F" Oil Co., Butler 3, se ne ne 21-5n-8e	*	950
POTTAWATOMIE COUNTY—		
Phillips Pet. Duff 1, ne nw sw 10-7n-4e (pb 3856)	120	4161
SEMINOLE COUNTY—		
Sinclair Prairie, Mason 1, sw sw ne 33-7n-6e	10	2985
Fleetborn, Chapman 1, ne nw nw 34-8n-8e	135	4260
Gulf, Scott 2, ce½ se nw 11-10n-6e	714	4171

*Failures; †Junked; ¶Million cu. ft. gas.

TAKING GAUGE

Oklahoma City.—Potential gauges for the next proration period in the Wilcox sand zone of the Oklahoma City pool were commenced on Monday, March 2, under new rules prescribed by the corporation commission in an order issued late in the preceding week. One-well leases producing less than the 200-barrel minimum will have for potential their actual total March, 1935, production divided by 31. Other Wilcox sand wells will take 6-hour gauges, the last 4 hours of which will be multiplied by six to arrive at the 24-hour basis. Offsets to wells being gauged for potential are permitted to be opened for production during the potential gauge. Producers in the Oklahoma City pool were relieved of one burden when the oil and gas conservation department announced that it would no longer require daily production reports as has been the custom for several years. The new basis will require monthly reports.

Recently British American Oil Producing Company established a bit of news when Piersol 3, NE SE SE 22-12n-3w, in the "Mansion Area" of the Oklahoma City pool produced 25,462 barrels in 24 hours compared to its potential of 22,696.56 barrels which was established on the basis of a 6-hour gauge the last 4 hours of which was multiplied by 6.

INCREASE STOCK

Houston.—Navarro Oil Company's common stock will be increased to 300,000 no par value shares from 60,000 shares of $25 par value, according to plans approved at the stockholders' meeting at Houston, March 2.

The plans provide for giving stockholders two new shares for each share held, and for giving the stockholders the right to subscribe for two additional shares of new stock for each three shares held under the new set-up.

For 1935 the company reported earnings of $4.97 a share.

The previously authorized capital of Navarro Oil Company also included 3000 shares of preferred stock with par value of $100, all issued, on which dividends of eight percent are paid.

On March 2 all officers and directors of the company were re-elected. The officers are S. P. Farish, president; A. W. Crosby, vice president and general superintendent of production; J. O. Winston, Jr., vice president and treasurer; Guy Graham, secretary. Directors include those officers and also J. L. Block and W. T. Carter, Jr.

Navarro Oil Company has about 100 producing oil wells in several Texas fields, restricted under proration to about 4000 barrels output daily. The producing properties include leases and wells at Conroe, Pierce Junction, and Big Creek fields on the Texas Gulf Coast; in the Government Wells area, South Texas; and in the East Texas field.

Kansas Is Active

TWO FIELDS ARE EXTENDED; SHOWS IN SEVERAL WILDCATS

WEEKLY STAFF REPORT

Wichita.—The status of exploratory development in Kansas was somewhat routine during the week but the return of good weather had brought the Western Kansas development campaign back to the peak which had been expected earlier in the year. Showings of oil and gas in several important wildcat tests, the staking of a number of new exploratory tests and the extension of two pools were the high points of an otherwise drab week.

New work throughout the state showed an increase averaging more than 50 percent when scouts made 32 first reports and reported 30 completions compared to 20 first reports and 24 completions during the preceding week. Reno County led the state with six first reports; Barton and Cowley Counties were tied for second rating with five each; Russell and Rice Counties had four each; Rush County, two; and Woodson, Rooks, Trego, Butler, Ellsworth and Sumner Counties, one each.

The completions included 20 oil wells which added 21,996 barrels to the state's cumulative initial production, six dry holes and four abandoned locations. From the initial production standpoint this is the highest figure reported for any one week since the week ending January 25, 1936. Involved in the 30 completions was 79,137 feet of drilling of which 10,085 feet was in three wildcat tests and 2097 feet in three old wells drilled deeper.

Stanolind Oil and Gas Company's Komarek 2, SE SW SE 30-22s-11w, definitely closed the gap between the Richardson and Riley pools of northeastern Stafford County when it pumped 1278 barrels naturally in 24 hours from 3550 feet in Arbuckle (Siliceous) lime. The Richardson pool was discovered in September, 1930, and the Riley pool in July, 1935. Both produce from the same horizon.

Continental Oil Company and Empire Oil and Refining Company's Nickel 1, NE SW SW 13-18s-8w, wildcat test in northern Rice County, topped Arbuckle (Siliceous) lime at 3210 feet, recovered saturated lime in a core from 3210 to 3214 feet and was waiting on cement to set after running 5 3/16-inch casing to 3210 feet. It is midway between the Geneseo pool and the town of Geneseo in which a discovery well was recently abandoned.

Slightly over a mile southwest of the Galt pool and between that new producing area and the Geneseo pool Farris et al's White 1, SW SW NW 17-18s-7w, was drilling below 2100 feet. Northeast of Sterling in the southeastern part of the county R. E. Day et al's Ponce 1, NW NE NE 28-21s-7w, flowed 100 barrels of oil in slightly less than one hour from Mississippi chat topped at 3388 feet and penetrated to 3400 feet. It proved a new pool for Rice County late last month. Operators were cleaning out 65 feet off bottom and were to run a liner before placing the well on potential gauge. In the old Welch pool Carpenter and Wilhelm's Rainey 6-B, NE SW SE 3-21s-6w, drilled to 3700 feet and had a hole full of water from Wilcox sand and were plugging back to test Mississippi chat in which the pool's major production is located.

Sam Murphy et al's Enschutz 1, SW SW SW 10-15s-13w, two miles northwest of production in the old Sellens pool in southern Russell County, had a showing of oil from 2885 to 2890 feet, a showing of gas at 3070 feet, another showing of oil at 3135 feet and a hole full of water from 3130 to 3135 feet. The 6⅝-inch casing was set at the latter point after drilling to 3145 feet. Top of the Lansing lime was corrected to 3040 feet. The Eichman pool in the same part of the county had a new well with the completion of W. I. Southern, Incorporated's Rosa Berry 1, SW SW NW 34-15s-13w. Arbuckle (Siliceous) lime was penetrated one foot from 3335 feet, and the well showed some oil naturally but when treated with 1000 gallons of acid it responded with a yield of 781 barrels on the potential gauge.

In the Gorham pool in the western part of the county, Bridgeport Machine Company's Witt 8, SWc N½ SW 3-14s-15w, produced initially 776 barrels in 19 hours and during the last two hours averaged 55 barrels per hour. Production is from Oswald lime.

Shell Petroleum Corporation's Reece 2, CNL SW 11-26s-9w, which last week extended the Lerado or Langdon pool of southwestern Reno County, one-quarter mile to the northeast, flowed 5455 barrels in 24 hours to make it one of the largest completions in western Kansas. Production is from Viola lime drilled to 4182 feet. The discovery well yielded only 878 barrels on its initial test in November, 1935.

In the Burrton pool, Phillips Petroleum Company's McElwain 1, C NW SE 4-24s-4w, swabbed 20 barrels of oil and 65 barrels of water from Mississippi chat at 3398 feet and was plugged back to 3350 feet in an attempt to gain a water shut off. This well is in the Stone sector of the pool where several wells have been recently completed and several others are now drilling.

The Garber pool of southeastern McPherson County was extended one-half mile to the north by Continental Oil Company's Hetzke 1, SW SW NE 29-21s-1w. The test topped Hunton lime at 3291 feet and with only three feet of penetration started flowing by heads after 2800 feet of oil had entered the hole in one hour. It will force three offsets.

Margay Oil Company et al's Bemis 2, SW SW SW 15-11s-17w, east offset to the discovery well in the Bemis pool of northeastern Ellis County, made 15 barrels of water from 3157 to 3167 feet, had an increase in water and a small showing of oil from 3167 to 3175 feet and set 6⅝-inch at 3194 feet. It was drilling ahead below 3215 feet. The discovery well made

KANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BARTON COUNTY—		
Yarnell, Carlson & Spencer, Bloomer 1, ne ne nw 36-17s-11w	60	3281
Gulf, Steckel 6, ne se ne 1-20s-11w	1729	3270
Magnolia, Steckel 4, sw sw ne 1-20s-11w	88	3319
COWLEY COUNTY—		
Derby, Davis 1, sw sw ne 2-31s-4e	168	2979
Murfin et al, Leimbrock 1, nw nw sw 10-31s-4e	*	3002
Lewis Prod., Hill 1, se se ne 19-31s-6e	*	3011
Gralapp et al, Barnett 1, se sw sw 18-32s-5e (otd 2114) (pb 2390)	*	3045
Aylward, Trees et al, Shields 1, sw sw sw 17-32s-6e	*	3414
HARVEY COUNTY—		
Jewett, Moore 1, cne ne 26-24s-3w	lcn.	abd.
RENO COUNTY—		
Olson & Shell, Penner 1, ce¼ e½ ne 27-23s-4w	164	3370
Sinclair Prairie, Collins 1, ne nw sw 3-24s-4w	1077	3606
Derby, Schrock 8, se se sw 27-24s-5w (pb 3812)	43	3965
Rosespring Drlg. & Foraker, Braner 1, sw sw se 4-26s-4w	560	4113
RICE COUNTY—		
Shell et al, Haxton "A" 3, cel nw 33-18s-9w	*	3304
Douglas et al, Stoltz 1, se se se 17-19s-10w	lcn.	abd.
Phillips & I.T.I.O., Krampe 10, ce½ nw se 31-19s-10w	153	3328
Gulf, Stoltz 2, sw se nw 32-19s-10w	1717	3317
Coffman 4, ne nw sw 5-20s-9w (pb 3238)	532	3295
Phillips, Mezger 8, se nw ne 21-20s-10w	809	3357
RUSH COUNTY—		
Schermerhorn et al, Maneth-Brackley 1, cne ¼ 22-18s-16w	¶3-700	3566
Schermerhorn, Schroeder 1, ne ne ne 36-18s-16w	¶7½-287	3636
RUSSELL COUNTY—		
Warren Pet., Bratton 1, se se se 25-11s-13w	*	3390
Phillips, Amelia 1, se sw sw 6-14s-14w (pb 3313)	6	3315
Bridgeport Machine, Michaelis "B" 1, ne se se 33-15s-13w	300	3364
Phillips et al, Eichman 2, cw½ w½ se 34-15s-13w	lcn.	abd.
Stanolind, Gideon 2, sw ne nw 8-15s-14w	lcn.	abd.
SUMNER COUNTY—		
Shell, State 1, ne nw sw 25-31s-2e (otd 1899)	1313	2148
Rothwell 6, ne ne sw 14-32s-2e, (pb 2877)	11,095	2878
Scroggins 1-C, se nw sw 14-32s-2e (otd 2098) (pb 2991)	58	3016
Lario & Barnsdall, Weinrich 15, sw se nw 23-32s-2e	1137	2959

*Failures; †Junked; ¶Million cu. ft. gas.

514 barrels initially from Topeka lime at 2830 to 3040 feet, the total depth. It was completed in October, 1935, and still is without an outlet.

Continental Oil Company's Cave 1, C EL NW 26-11s-17w, wildcat test in northern Trego County, topped Dakota sand at 725 feet and was drilling below 1557 feet. It is one and one-quarter mile southeast of production in the Wakeeney pool which was discovered in August, 1934, producing from the Oswald lime at 3619 to 3627 feet.

Ira Keith et al's Savings Bank 1, SW SW NE 3-17s-18w, wildcat test near La Crosse in central Rush County, topped the anhydrite at 538 feet and was drilling below 960 feet.

Barton County was one of the most active areas in the western part of the state during the week. In the Silica pool in the southeastern part of the county two wells which were completed last month were acidized and one new completion was awaiting acid reaction. Mid-Continent Petroleum Corporation's Schmidt 1, SE SE SW 36-19s-11w, completed late last month and given a potential of 1755 barrels per day was treated with 1000 gallons of acid in the Arbuckle (Siliceous) lime pay from 3282 to 3292 feet, the total depth. The same operator's Matzek 1, SE SW SE 25-19s-11w, had a February 1 potential of 2289 barrels but on a pumping test made 328 barrels in three hours from Arbuckle (Siliceous) lime at 3275 to 3287 feet, the total depth. Continental Oil Company's Risse 2, SW SW SE 36-19s-11w, topped Arbuckle (Siliceous) lime at 3278 feet, was drilled to 3289 feet and made 419 barrels in eight hours on the pump. It was awaiting reaction after being treated with 1000 gallons of hydrochloric acid.

E. H. Moore, Inc., announced its first Kansas operation when location was staked for No. 1, an offset to the discovery well in the Feist pool, in Section 29-18s-11w, in the eastern part of Barton County. As reported the description is confusing. The location would have to be either in the NW NE NE or SE NE NE to be described as a direct offset. The Feist pool, a discovery in December, 1935, produces from Arbuckle (Siliceous) lime at 3430 to 3432 feet. Initial production of the discovery well was 497 barrels natural and 576 barrels after acid treatment.

Four miles northeast of production in the Gates pool in northern Stafford County, Lario Oil & Gas Company et al had staked location for Charles Andress Estate 1, NE NW NE 1-21s-13w.

SHALLOW SHOWING

San Angelo.—Humble Oil & Refining Company's Tubb 1, projected Ordovician lime test for the Sand Hills field, western Crane County, is showing for a producer in the upper lime horizon at 4261-4275 feet. Drill stem test made with packer set at 4249 feet showed 2500 feet of oil and mud in 90 minutes. Operations have been temporarily halted to run an electrical device to check log on the formations, and to await decision as to whether this test will be continued to the Ordovician zone. It is about 3¾ miles southeast of Gulf Oil Corporation's Waddell et al 1, discovery producer of the Ordovician. The latter is pumping about 70 barrels of 35 gravity oil daily.

Wait On Outpost

TWO TALCO AREA WILDCATS ARE BEING WATCHED CLOSELY

WEEKLY STAFF REPORT

Tyler.—Drilling operations are underway on two tests situated to the east and southwest of the prospective oil producer in the Paluxy, or Upper Trinity sand zone, near Talco, northwestern Titus County. The original test drilled by Housh & Thompson, Inc., and R. L. Peveto, et al, on the C. M. Carr 108½-acre lease, M. V. Delgado Survey, about 1¼ miles east of Talco, will not be drilled in until an equitable settlement can be made with heirs claiming an interest in the Carr tract. This rank wildcat touched off a major lease and royalty play for the full length of the Mexia fault zone across Central East and North Texas immediately after formation tester showed 800 feet of oil from sand at 4190-4208 feet on February 7. The independent group suspended operations after cementing 8¼-inch pipe at 4166 feet.

Interest in the Talco area is now centered upon W. C. Windsor et al's Hughes & King 1, located on the Orlander James Survey, near east border of Franklin County and about two miles southwest of Talco. Drilling has not progressed as rapidly as forecasted due to time lost in repairing the rotary rig, but operations were underway below 3300 feet late last week. This test cut through the fault between the Pecan Chalk series, logged at 1621-1806 feet, and top of Woodbine found at 2895 feet, or 2533 feet sub-sea. Carr 1 passed from the upthrow to the downthrow side of the fault above, or in the Georgetown lime horizon, which was topped at 3962 feet. This accounts for the fact that the latter found first Woodbine at 3466 feet, or 3066 feet below sea level, and about 533 feet structurally lower than the eastern Franklin County project.

Showdown on production possibilities from the Trinity zone about two miles east of Carr 1 will be gained from Humble Oil & Refining Company's Mary D. Grove 1, located 1300 feet from north and 457½ feet from east and west lines of 82.9-acre lease, Ben Jones Survey. Drilling began March 4, and the rotary contractor was drilling below the surface pipe late last week.

Trading has subsided along the Mexia fault to await the completion of a commercial producer from the Trinity series. A number of new tests are contemplated along an east and southwest trend from Talco, but have not progressed beyond the map stage. However, one or more wildcats will be drilled in the near future in Franklin, Hopkins and Hunt Counties, with the Trinity as their goal, based on the fact that the original deep test at Talco found free oil in the Paluxy. Operators predict that the best opportunities for production rest upon the lower Glen Rose limestone to be found in the lower section of the Trinity. Such views are predicated on the fact that this lower zone produces at Rodesssa, located on the Louisiana-Texas border, and yields gas and distillate at Mexia and Cayuga.

Geological data and drilling depth is being withheld on C. F. Lytle et al's J. L. Thompson 1-T, projected Trinity test for the west flank of the Mexia field, Limestone County. Drill stem count made late last week revealed that drilling has progressed below the 4100-foot level, and cuttings indicated that the formation was Georgetown limestone. Production is due near the 5500-5600-foot level.

TWO OUTPOST WELLS

East Texas receives two small extensions

Tyler.—Completions in the East Texas field during the past week included 49 producers, five failures and a junked test. The total is well above the average weekly quota recorded since the first of the current year. Field work has been gaining since the return of balmy weather, and reports indicate approximately 120 rotary rigs in active service.

Additional development work will result from successful completion of two outpost locations the past week. Sun Oil Company's A. B. Mackey 1, NEc 45-acre lease, W. B. Davis Survey, Upshur County, developed flowing production at a higher structural position than anticipated when oil sand was encountered at 3697 feet, or 3309 feet sub-sea. Operations were halted after drilling one foot of the sand with cable tools, and the well flowed pipe line oil through 5¾-inch casing, which was cemented at 3692 feet. A potential gauge was scheduled to be taken later in the week.

Territory situated about one mile southwest of Gladewater and west of the Sa-

bine River will receive a number of new tests was result of the successful workover job attained by B. F. Phillips et al's Greggston 1, NEc 51-acre lease, W. W. Avery Survey. This outpost was rated as a failure last fall when it failed to make a producer after drilling to 3615 feet, or 3340 feet below sea level. Top of sand was logged at 3593 feet, or minus 3318 feet. The hole was plugged back to 3594 feet, and redrilled to 3596 feet, followed by a natural flow of 23 barrels of pipe line oil on 40-minute open tubing gauge.

An abrupt dip in the producing horizon on the west edge of production in northern Rusk County was experienced by John G. Menke, Wichita Falls, et al in scoring a failure on their C. F. Bradbury-Sun 46.81-acre lease. Cap rock formation was logged at 3733-34 feet, and top of sand at 3737 feet, or 3344 feet sub-sea. The well produced salt water when deepened to 3740 feet. The formation below 3696 feet was cored. Menke et al's first well, a south offset, topped the oil sand at 3316 feet sub-sea, while Smith-Bohlssen Oil Company's Terrell 4, an east offset, was completed as a flowing producer last December in sand topped at 3311 feet below sea level.

Plugging orders have been issued for L. C. Collins, Gray and Wolf's Caddie Fisher 11, located on north line of 134.9-acre lease, John Ruddle Survey, Gregg County, after failing to produce from tight broken sand body at 3417-36 feet. It is on the east edge of the field, and a south offset to Magnolia Petroleum Company's Fisher 11, which made a small pumper. Stanolind Oil & Gas Company's Betty Coleman 5, NWc of 331.21-acre lease, Jas. Burke Survey, situated on east edge of the Joiner area, missed the sand and was ordered abandoned in Georgetown lime at 3743 feet.

DEEPENING HELPS

Fort Worth.—Seaboard Oil Corporation's T. K. Rea 1, first producing well in Hamilton County, increased its gas yield to approximately 10,000,000 cubic feet daily when deepened to 2435 feet, or 1053 feet below sea level. Production is from Marble Falls lime topped at 2369 feet. A string of 8⅝-inch pipe was landed at 2412 feet to install bradenhead on 10¾-inch casing set at 1446 feet, but the seat gave way on the short string. Drilling operations have been halted to try and cement the 10¾-inch pipe. This isolated wildcat is located near the southwest corner of 320-acre lease in David Cook Survey No. 30, about 14 miles northwest of Hamilton. The company holds lease on an almost solid block of 11,000 acres, and is contracted to the Ellenberger lime horizon.

STATE ROYALTIES

Austin.—Leave to file a motion to mandamus State Land Commissioner J. H. Walker was granted last week by the Texas Supreme Court on the application of David Winterman. The applicant sought to force the commissioner to issue a patent on a tract of land in Colorado County reserving only 1/16th of the minerals to the state. The case has been set for hearing before the entire court on March 18.

The suit is of unusual importance because it involves an interpretation of the Texas Statutes to determine whether the Land Commissioner should issue the patent reserving all mineral rights to the state, or whether, as the petitioner contended, only 1/16th of the royalties should be reserved to the state, as provided under Section 4, Chapter 271, General Laws of the Regular Session of the 42nd Legislature.

During the time that Governor Allred was attorney general, conflicting opinions on this question were furnished the land commissioner by members of Allred's staff.

Judge Ralph Yarborough, in the last opinion written at the time he was an assistant to Allred, held that the state was entitled to the entire mineral rights, and Land Commissioner Walker has chosen to follow this interpretation of the law.

232 TEXAS PERMITS

Austin. — The Railroad Commission last week granted permits for the drilling of 232 new wells, 19 less than were allowed the week before.

Southwest Texas showed the greatest increase with the 77 locations, 60 of which were for wells in Duval County. In the adjacent Gulf Coast District, there were 28 permits, with 13 in Nueces County.

East Texas showed a slight decline with 47 new wells allowed. There were 19 in Gregg, 17 in Rusk County, eight in Upshur County, and three in Smith County.

East Central Texas reported 21 new permits, with nine in Cook County. There were 23 in West Central Texas, which included 11 in Shackelford County. North Texas reported 19 new locations.

West Texas reported 12 new permits, and there were five from the Panhandle.

PANHANDLE WASTE

Austin.—Hearing will be held at Austin on March 16 before the Railroad Commission to consider physical waste resulting from the operation of five Panhandle stripping plants and pipe lines.

Arionelene Gasolene Corporation, Buckeye Natural Gas Corporation, Magic City Plant of Magnolia Petroleum Company, the Sitter Plant of Smith Brothers Refining Company, and Northern Texas Utilities Company will be involved.

Each operator has been instructed to present at the hearing a report showing the amount of gas handled, the recovery therefrom, and the disposition of the gas, as well as complete data on the completions and fittings of every well to which the plant is connected.

INCREASE OUTPUT

Austin.—An increase of 1500 barrels daily in the allowable for the North Cowden field has been ordered by the Texas Railroad Commission.

The order is an amendment to the general order issued on February 23 and brings the total field allowable to 5850 barrels per day. The order was retroactive to March 1.

EAST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Amerada & Deep Rock Oil Corp., Stovall 27 (793.86-ac)	5000	3694
Atlantic Co., Arnold 7, (35-ac)	480	3725
Arnold 8 (35-ac)	480	3745
Fair 18 (100-ac)	†	3460
R. H. Dearing & Son, McDavid 9 (78.6-ac)	240	3730
R. W. Fair & Thompson, Deason 4 (10-ac)	600	3675
G. B. R. Oil Corp.-Geo. B. Ray, Thrash 7 (4.92-ac)	8500	3771
Georgian Corp., Kee 3 (10.97-ac)	1200	3802
Gulf, H. Johnson 7 (101¼-ac)	7000	3758
M. F. Harrison & J. A. Gladish, Bradford 1 (10-ac)	20	3668
M. F. Harrison & Dale Sneed, Lanham 1 (2½-ac)	1200	3780
Humble, Blackwell 46 (325.79-ac)	5500	3667
Blackwell 10 (74.4-ac)	9000	3683
E. W. & F. D Jones, Moore 6 (27.86-ac)	6500	3663
Lake Oil Co., Slaughter-Rankin 2-B (10.6-ac)	500	3633
Magnolia, Wright 36 (81.9-ac)	9600	3698
Alex McCutchin et al, Thompson 3 (18.44-ac)	3600	3686
Retsal Drlg. Co., Maxwell 22 (25.8-ac)	240	3686
Royal Pet. Corp., McDavid 8-A (57.48-ac)	500	3575
Sinclair Prairie, Mayfield 50-A (374.74-ac)	4600	3808
Stanolind-Pure, Coleman 5 (331.21-ac)	*	3743
Sun, Pace 27-B (637.45-ac)	600	3835
Schuyler & Schuyler 7-A (50-ac)	800	3624
Texas Canadian Oil Corp., Kelly 1 (63-ac)	4000	3657
Seale 2 (20-ac)	2000	3734
Triway Oil Corp., Frederick 3 (10-ac)	80	3615
Frederick 4 (10-ac)	120	3590
Union Oil Co., Tolliver 3 (10-ac)	2500	3755
R. H. Vise et al, Alford-Shell 11 (126.9-ac)	3000	3808
KILGORE AREA—		
Arkansas F. O. Co., Hughey-Ross 32 (220-ac)	6800	3569
Gulf, Birdsong 15 (98.42-ac)	7000	3585
Houston Oil Co., Thompson 5 (40-ac)	8000	3674
Humble, Peterson 7 (50-ac)	2000	3590
Hurtle Oil Co., Sexton 2 (102-ac)	1000	3617
Magnolia, Radford 33 (252-ac)	7000	3636
John G. Menke et al, Bradbury-Sun 2 (46.81-ac)	*	3740
Shell, Gill 4 (83-ac)	800	3648
Gill 5 (83-ac)	2500	3648
Sinclair Prairie, King 50-A (366.7-ac)	8000	3510
Lawther 19 (317.68-ac)	120	3565
Sun, Morton 18 (336.24-ac)	1500	3460
Tide Water, Moore 16 (135-ac)	8600	3697
LONGVIEW AREA—		
Arkansas F. O. Co., Bolton 7-A (56.66-ac)	8000	3533
Lee 9 (67.19-ac)	7500	3625
L. C. Collins-Gray-Wolfe, Fisher 11 (134.67-ac)	*	3436
Margay Oil Corp., Victery 8 (87-ac)	5500	3663
Meco Prod. Co., (was Burke Roy. Co.), Hickman-Baird 2 blk 50	7200	3591
Simms Oil Co.-Leon Russ, Flewellen 17 (200-ac)	5000	3646
Stanolind, Castleberry 8 (77.44-ac)	100	3640
Tide Water, Devernia 39 (270.85-ac)	9200	3539
Sheppard 15 (114.36-ac)	7000	3700
C. T. Trail et al, Shelton 6 (42.14-ac)	160	3745
Jim Wood et al, Mackey 3 (25-ac)	1000	3749
Paul F. Rutledge, Boller & Carter Drlg. Co., Dunbar-Magnolia 3	*	3622
Dunbar-Magnolia 4	*	3672
ANDERSON COUNTY (Cayuga Field)—		
Diamond Half Oil Corp., J. C. Barton 1	100	4086
ANDERSON COUNTY (Camp Hill Field)—		
Sun, Carl Rosson 2	750	5085

*Failures; †Junked; ‡Million cu. ft. gas.

Encounter Delay

YOAKUM WILDCAT TO PLUG BACK AND USE ACID

WEEKLY STAFF REPORT

Midland.—Yoakum County's prospects of being added to the productive list covering the Permian Basin section of West Texas will be deferred until plugback operations are completed and acid used on the first test drilled to the deep lime zone in the county. Deeper drilling carried out by Honolulu Oil Corporation and Cascade Petroleum Company's L. P. Bennett 1, C NE NE Section 678, Block D, John H. Gibson Survey, revealed a comparatively thin section of lime between the top of the oil zone and the water level. It is believed capable of making a small oil producer, and possibly is situated near the edge of the structure.

Preliminary production test given this isolated wildcat, which is about 42 miles northwest of the Means field, Andrews County, and 33 miles northeast of the Hobbs field, N. M., nearest producing area, indicated a commercial pumper on February 27 from dolomite lime showing oil at 5096-98 feet. The well reached the pay zone last September, and operations halted after cementing casing at 4656 feet and drilling plugs to clear up titles. About 5000 feet of oil was in the hole at the end of the five-month shutdown period, and the well flowed about 70 barrels by heads when swab was run once. Using cable tools, the deepening operations revealed the presence of water at 5112 feet, or 1555 feet below sea level. Owners report that an anlysis of the lime indicates that it will react favorably to acid treatment.

Volume of gas appearing with the oil from the Yoakum County wildcat was comparatively small. Geologists in close touch with the area predict that later developments will prove the first location to be on the edge of the structure. Thicker interval of oil saturated lime above the water zone is needed to attain worthwhile production at this depth, and also to maintain interest in the north portion of the Permian Basin.

An early decision on the prospects for oil production being uncovered near Seminole, Gaines County, may be attained by W. T. Walsh, Harry Adams et al's Averitt 1, NEc NE NE Section 228, Block G, W. T. Ry. Survey, as it was drilling in solid lime near the 4400-foot level. It is about 2½ miles northwest of the town. Numerous gas zones found below 2785 feet proved capable of commercial production. First stringer of brown lime was logged at 4030-70 feet, with an elevation of 3322 feet. Owners of blocks of royalty in the general area have been turning down offers of $100 per acre basis, while virtually all leases have been acquired by substantial operating units. E. M. Wahlenmaier, York and Harper's Jones-Humble 1, wildcat in northwestern Gaines County, has progressed to 5175 feet, according to late reports, logging extremely hard and dry lime.

Appearance of oil in W. H. Dunning, Jr. et al's Clarence Scharbauer 1, SEc SW¼ Section 33, Block 44, T&P Ry. Survey, T-1-N, an intermediate location between oil production in the Goldsmith field, Ector County, will result in the starting of a number of new tests on acreage held by independents in the general area. The well was drilled to 4175 feet, or 1016 feet below sea level, while loaded with water to forestall gas blowout, and kicked off with an estimated flow of 25 barrels of oil and 6,000,000 cubic feet of gas daily.

High structural position recorded by Scharbauer 1, thus accounting for the unusual volume of dry gas encountered below 4023 feet, is substantiated by correlation of the oil zone with Gulf Oil Corporation's Goldsmith-Scharbauer 1, located 1½ miles to the southeast. The latter reached first oil pay at a sub sea depth of 1058 feet, and was drilled to 4175 feet, or 1063 feet below sea level, for an initial flow of 275 barrels of 36.2 gravity oil in three hours through open casing gauge.

Winkler County contributed several important developments the past week. Virgin territory about one mile northwest of Kermit and two miles south of the Sayre field scored a flowing producer from the sandy-lime horizon. This strike was made by Bert Fields, Wilson Keys and A. W. Cherry's Central State Bank (Abilene) Conoco 1, NWc NE¼ Section 25, Block 26, PSL Survey, with an initial gauge of 137 barrels oil in 11 hours, from broken sand section at 2821-2878 feet. The gas volume was estimated at 3,000,000 cubic feet daily. Nitro shot is to be used when bridge formed below the casing seat at 2672 feet is removed. Continental Oil Company farmed out this 160-acre lease, retaining one-sixteenth over-riding royalty, and mineral rights below 4000 feet. Bert Fields, Dallas contractor and operator, drilled the well and holds a substantial interest in the property.

Using pressure control equipment on rotary rig, The Falcon Company's W. A. McCutcheon-Humble 1, SWc SE¼ Section 15, Block B-2, PSL Survey, an inside location for the Keystone field, developed an initial flow of 770 barrels of pipe line oil after 500-quart nitro shot in dolomite lime at 3464 feet, or 514 feet below sea level. No difficulty was encountered in negotiating the troublesome high-pressure gas sands found in the upper section of lime, and the well was completed in record time for this new Winkler County field. The company is confronted with two more tests in complying with lease assignment terms assumed on obtaining the 320-acre tract from Humble Oil & Refining Company. The latter is carried for one-sixteenth overriding royalty on production exceeding 50 barrels daily per well, and retained mineral rights below 4500 feet.

WEST TEXAS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CRANE COUNTY (McCamey Field)—		
A. H. Flaherty et al, Ed. S. Hughes-Texas Co. 1	625	2076
ECTOR COUNTY (North Cowden Field)—		
Stanolind, J. M. Cowden 26	1213	4250
FISHER COUNTY—		
Gen'l Crude Oil Co., D. M. Bledsoe 4	*	3810
GLASSCOCK COUNTY—		
Empire G&F Co., G. T. Hall 4	*	2360
JONES COUNTY—		
S. C. Herring et al, C. L. Cowsart 1	*	2280
Ungren & Frazier, Jennings 2-A	200	2064
PECOS COUNTY Pecos Valley Field)—		
Joe Crump & Watson, Eaton-Magnolia 3	37	1661
Tex-Mex Pet. Corp., Brandenburg-Marathon 1	77	2325
PECOS COUNTY (Taylor-Link Field)—		
Ajax Drlg. Co., University 1	8	1765
PECOS COUNTY (Torborg Pool)—		
Stanolind, Tippett 13-A	168	491
PECOS COUNTY (White-Baker Pool)—		
Cardinal Oil Co., White-Baker 1, sec 44	¶15½	1875
PECOS COUNTY (Yates Field)—		
Marathon, Smith-Taylor 24	55,650	1582
I. G. Yates 9-D	3168	1219
I. G. Yates 12-H	15,288	1665
J. F. Slaugter et al, Yates-Sun 1	*	1221
WARD COUNTY—		
TP Coal & Oil Co., Barker 3	510	2400
WINKLER COUNTY (Kermit Field)—		
The Falcon Co., McCutcheon-Humble 1	783	3464
WINKLER COUNTY (Hendrick Field)—		
Amerada, J. B. Walton 2	332	3066
WINKLER COUNTY (Sayre Field)—		
Sayre Oil Co., Howe 6-A	1462	2975
Shell, T. G. Hendrick 2-J	983	3009

*Failures; †Junked; ¶Million cu. ft. gas.

CUT OIL RUNS

Phillips is to take less Panhandle crude

Pampa, Texas.—Phillips Petroleum Company, largest producer and purchaser of crude in the Texas Panhandle, has notified the Texas Railroad Commission that effective March 18 its crude runs would be restricted to 16,500 barrels daily, or approximately 2000 barrels below its current takings. The company has sought relief from surplus crude since last fall through formal application to the commission, and early last February succeeded in diverting about 2000 barrels daily to Humble Pipe Line Company. Reports indicate that the company will sever connections from outside leases to attain the proposed 2000-barrel reduction. Crude stocks held by Phillips Petroleum Company in the Texas Panhandle amount to about 3,000,000 barrels.

Resume Drilling

GRAYSON WILDCAT IS GOING AHEAD AFTER TESTING

Fort Worth.—No production was recorded when bailing test was given Olson Drilling Company et al's Southwestern Life 1, Grayson County wildcat on the Preston Anticline, at 4426-4475 feet, and drilling was underway below 4600 feet, according to late reports. This projected Ordovician lime test showed traces of gas in rotary returns from hard sand at 4424-29 feet, and 8⅝-inch pipe was cemented at 4426 feet to permit a test and also to protect the hole. It was originally drilled to 4670 feet, but lost section of drill pipe, and plugged back to 3535 feet to sidetrack.

Completion of a second oil producer from the Strawn sand series in the Chalk Hill field, Archer County, is in prospect for the discovery leasehold. Deep Oil Development Company and Lindsay Drilling Company's L. F. Wilson-McCrory 11, Lease 4-A, located 990 feet out of the SWc Section 76, A. T. N. C. L. Survey, is preparing to test oil saturated sand logged at 3613-18 feet, with 6⅝-inch pipe cemented on dry sand at 3611 feet. The partnership has one small producer in this deep horizon, and its group of wells completed in the Canyon 2200-foot horizon are the most prolific in North Texas.

Perkins-Cullum Oil Company's Wilson 1, SE¼ Section 118, located a short distance southwest of production in the Chalk Hill field, landed casing to test the Canyon horizon at 2204-45 feet, but developed only a small show of oil with salt water. The hole was drilled to 2246 feet. In southeastern Archer County, Continental Oil Company and O. P. Darsey's W. C. Jones 1, NWc SW¼ Section 1840, TE&L Co. Survey, failed to produce in the Canyon, and has been abandoned at 1876 feet. An unsuccessful attempt was made to complete a pumper from sand at 950-953 feet, showing free oil, and other shallow tests will likely be drilled in this area.

A. T. Strong et al's J. L. Cox 1, NWc of west 30-acres of Section 2727, TE&L Co. Survey, eastern Young County, has been completed as a 3,000,000 cubic foot gasser, showing 1850 pounds rock pressure, from lime at 4905 feet. It was shot with 325 quarts of nitro at 4680-4905 feet.

TEXAS PANHANDLE

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
GRAY COUNTY—		
British-American Oil Prod. Co., J. L. Phillips 10	648	3285
A. Smith-Shell 6	618	3225
Empire G&F Co., W. C. Archer 4-B	500	3210
J. F. Meers 2	558	3307
Kewanee O&G Co., M. S. Arnold 8	426	3270
Magnolia, Ray Harrah 11	354	3208
W. H. Taylor Oil Co., Taylor 4	170	3160
Vulcan Pet. Corp., R. W. Bailey-Conoco 1	*	3028
HALL COUNTY—		
Phillips Pet. Co., L. M. Hughes 1.	*	8017

*Failures; †Junked; ¶Million cu. ft. gas.

Leases have been in demand at substantial cash bonuses in the vicinity of King Royalty Company's Waggoner Estate 1-N, NW¼ NE¼ Section 104, Block 14, H&TC Ry. Survey, semi-wildcat in the South Vernon district, Wilbarger County. The well was recently completed and rated at 289 barrels initial from sand at 1550-1552 feet.

ATTACK RATIO

Austin.—The Texas Railroad Commission rule limiting gas/oil ratios in the Panhandle to 8000 feet per barrel of oil may be under attack at a hearing scheduled before the commission on March 16, at Austin. Four Panhandle operators will present, at that hearing, applications for exceptions to this rule, these exceptions applying to seven wells.

After the enactment of House Bill 266, the new Gas Waste Law, the commission began enforcement of an order limiting gas/oil ratios in the Panhandle.

Stripping plant operators and other producers charged with wasting gas in the field have contended for years that the gas blown into the air from oil wells producing with excessive gas/oil ratios produced a great deal more waste than did the other operations where dry gas was stripped.

WEST CENTRAL TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BROWN COUNTY—		
Hightower O&R Co., S. D. Stone 1	*	2151
CALLAHAN COUNTY—		
Beams Prod. & Dev. Co., I. N. Jackson 12-D	40	1205
Jackson & Green, H. H. Ramsey 1	10	1244
Samples & Herrington, E. L. Finley 1	*	650
W. C. Turnbow et al, Sherrell 1	*	1956
Ungren & Frazier, I. N. Jackson 1-G	*	1250
L. A. Warren et al, P. G. Hatchett 1	*	826
West et al, R. C. Robertson 1	*	900
Wittmer O&G Properties, W. G. Bowles 1	¶1¾	1300
COLEMAN COUNTY—		
Anzac Oil Corp., M. T. Overall 17-A	60	2348
Empress O&G Corp., J. A. Robertson 1	*	610
Groves et al, J. P. Morris 1	*	3805
Glenn Myers et al, H. B. Turner 1	*	1400
COMANCHE COUNTY—		
States Oil Corp., S. H. Huckabee 1	25	2862
EASTLAND COUNTY—		
Case Bros. et al, Hampton 1	*	2873
Ray F. Hoff et al, Higgins 1	*	1487
B. G. Wright 1	*	1486
A. A. Walton et al, J. B. Johnson 1	*	3132
SHACKELFORD COUNTY—		
Condor Pet. Co., W. P. Reynolds 1	*	1930
Dean Bros. et al, W. P. Newell 1	¶25	1459
Eppenauer Drlg. Co., Morris-Buie 1	*	1648
R. F. Gilman et al, H. Herron 1-A	*	1052
Grisham-Hunter Corp., W. D. Reynolds 2	*	1275
Humble, C. A. Nail 1	*	1697
J. H. Nail 1, sec 137	50	1555
Pat Oil Co., J. H. Nail 4	70	1541
Pitzer & West-Humble, G. T. Delafosse 2	*	4505
Root & Rhodes et al, T. H. Latimer 1	*	1642
Roeser-Pendleton, Inc., Swenson 1.	*	1977
St. Marys O&G Co., Webb-Davis 1	†	1460
Tannehill et al, J. B. Mathews 27	35	1155
J. B. Mathews 28	35	1145
Texas Central & John Sedwick, C. Flippen 1	*	1152
Weona Oil Corp., T. McCassland 6	20	799
T. McCassland 7	*	820

*Failures; †Junked; ¶Million cu. ft. gas.

NORTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
Carl Bailey et al, Parrish 1-C, sec 98	10	1290
L. T. Burns et al, Archer Co. (Robertson) 1-A	*	1504
C. C. Conner 1, blk 105	*	1439
L. McCrory-Wilson 1-Y, sec 121	10	611
Harry Hines et al, Ward 1-B	165	941
W. T. Hutcheson, Jr., L. McCrory 2, sec 121	1	47
C. A. Lininger et al, Wm. Coleman 1, blk 32	*	1501
Owenwood Pool No. 3, W. O. Wright 1, sec 2435	45	1415
Perkins-Cullum Oil Co., L. F. Wilson-McCrory 1, sec 118	*	2246
Pet. Producers Co., Richardson 16-D, blk 1	95	1258
Richardson 17-D, blk 1	*	1288
J. B. Shira et al, M. P. Andrews 1, sec 1824	*	960
BAYLOR COUNTY—		
Consolidated Oil Co., Portwood 18-R, sec 1579	100	1375
Portwood 1-X, sec 2412	*	1455
Tom F. Hunter et al, Fayette Co. S. L. 1	*	1721
Pet. Producers Co., Portwood 26, sec 1281	90	1402
Portwood 27, sec 1281	25	1408
CLAY COUNTY—		
Shirley Clum et al, Summers 1, lot 1	*	237
COOKE COUNTY—		
Harrison & Dillard, R. W. Trew 2	75	1147
Hester Oil Co., R. W. Trew 1	350	1125
F. W. Merrick, Inc., Knabe 23	6	778
G. A. Stelzer 8	40	827
Murray Inv. Co., Rohmer 4	65	953
DENTON COUNTY—		
Burns Oil Co., J. T. Harmon 1	*	2327
JACK COUNTY—		
Gray Drlg. Co., Shown 7	*	320
MONTAGUE COUNTY—		
Perkins-Cullum Oil Co., Rowland 3	11	885
The Texas Co., Cunningham 7-A	25	921
WICHITA COUNTY—		
J. C. Jennings et al, G. Jennings 1-B, sec 12	*	1917
Rathke Oil Co., Burnett 9, sec 4	5	358
Burnett 10, sec 4	*	373
The Texas Co., W. B. Honaker 71, blk 3	15	1060
A. B. Wharton, Jr., Waggoner Est. 4-B	275	1995
WILBARGER COUNTY—		
Hegralle Oil Co., Waggoner Est. 1-B, sec 1	*	1904
King Roy. Co., Waggoner Est. 1-N, sec 104	289	1552
Lawson & Leavell, Waggoner Est. 1, sec 27	*	2203
John O'Neil et al, Waggoner Est. 5-B, sec 20	4	540
YOUNG COUNTY—		
L. T. Burns et al, R. O. Andrews 4, sec 1399	15	918
Duncan & Holt, Benson 1-B, sec 1391	20	903
L. G. Hawkins et al, H. C. McBrayer 1, sec 1907	*	520
King Royalty Co., J. D. Lowe 3, sec 2244	*	730
Pitzer & West, J. N. Boozer 1	65	4485
A. H. & S. P. Schmitt, R. O. Andrews 5, sec 1399	18	920
A. T. Strong et al, J. L. Cox 1, sec 2727	¶3	4905
Tebay & Leberman, J. G. Hawkins 1, sec 1917	*	520
Wheeler & Brashear, J. K. Jeffery 3-B, sec 50	*	826
D. L. Wolf et al, D. M. Spearman 2	*	603

*Failures; †Junked; ¶Million cu. ft. gas.

Many Developments

PEARSALL LEADS SOUTH TEXAS DURING IMPORTANT WEEK

WEEKLY STAFF REPORT

San Antonio.—South Texas accounted for 41,141 barrels new production during the week through the completion of 36 oil wells, several of which were key wildcats. In addition, 11 failures were abandoned and two gas wells were finished.

The high spot of the week, however, as the definite establishment of the Pearsalll field, Frio County, as a major oil field through the completion of a 22,297-barrel producer. Likewise, it aided in returning attention to the Balcones fault zone, practically idle for many months. Several other fault line wildcats were added to the production list.

Saxet Heights field (Corpus Christi) in Nueces County, was widened in several directions, a new sand was established in the Taft field of San Patricio County and a general increase of activity in the Trans-Salt Dome Region was evidenced.

A wild gasser destroying rig and derrick in the Lucas field, Live Oak County, was the outstanding feature of the Pettus district.

Samfordyce field, Hidalgo and Starr Counties, was extended and the Mercedes field, also Hidalgo County, apparently was being widened nearly a mile to be the high spot of Rio Grande Valley work.

A number of minor field extensions, one to two locations, were recorded in the Mirando district.

COAST ACTIVE

New Taft sand and Saxet extension are features

Corpus Christi.—A new sand, 1000 feet shallower than the discovery level, was established in the Taft field, San Patricio County, several extensions and 46 locations in the Saxet Heights field, Nueces County, and salt water showing in two Tomoconnor field, Refugio County, wells were included in the high spots of the Trans Salt Dome region during the week.

Humble Oil & Refining Company's J. W. Mayo 1, northwest offset to the discovery well of the Taft field picked up a sand at 3969-75 feet and made a drill stem test from 3961-75 feet which developed 3000 feet of pipe line oil and 25 pounds pressure in 15 minutes through ¼- and ⅜-inch chokes. Casing has been set and the well will be completed early in the week.

George E. Smith's Britton 1, discovery well, is producing from sand at 4879-4901 feet. It had the Heterostegina at 4862 feet and the Discorbis somewhere around 4645 feet. This would mean that the production in the Humble test is about 670 feet above the Discorbis zone, or about the same level as the shallower gas sands in the Saxet and Refugio fields.

Heep Oil Corporation's R. Svedlenak 1, 1½ miles south of this well, drilled to 6032 feet and has been abandoned. Three wells have drilled to depths below the producing horizon without picking up production.

San Patricio County is receiving several interesting wildcats, including tests on the flanks of already proven structures such as Angelita, White Point, Sinton, etc.

Saxet Heights field (Corpus Christi) of Nueces County, has been extended in several directions, the most important being into the small tract sector just west of Corpus Christi. Approximately two score of permits have been granted for wells to be drilled in tracts ranging in size from ½ acre to 5 acres. Derricks and rigs are being assembled on many of these locations, although others are awaiting equipment. Along this line, it is apparent that operators expect high recoveries or multiple sands. Figuring that 40,000 barrels per well recovery is necessary to repay the expenditure plus a small profit, and considering an average of 2½ acres per well, this sand must produce in the neighborhood of 16,000 barrels per acre, which is unlikely from present estimates. The outcome of these projects, however, will be of high interest. Along the line of small tracts, one location requires the leasing of additional land in which to have sufficient room to place the slush pits.

Another extension for the field is D. H. Hawn's William Shely 1, about ½-mile northeast of production. The well flowed 252 barrels of oil per day through 3/16-inch choke showing a tubing pressure of 600 pounds and casing pressure of 1350 pounds. It is bottomed at 4092 feet with casing perforated at 4075-85 feet. It previously flowed 22 barrels per hour through ¼-inch choke.

Taylor Refining Company's John Dunn 1, ½-mile northwest of production, drilled to 4046½ feet, showed for a producer, set casing on bottom and drilled out cement to 4042 feet. It topped the gas sand at 4003 feet and showed oil from 4026 feet to total depth.

A drill stem test with wall packer was made after the well was perforated, the recovery being 400 pounds dry gas pressure. Perforations have been recemented and the well will be reperforated for production.

The above extension indicates that production ultimately will be extended into Nueces Bay, bringing about marine drilling problems. The State of Texas has called for bids on a portion of the lands in the bay lying in the vicinity of the field.

In Refugio County, Quintana Petroleum Corporation cored 91 feet of sand in Tom O'Connor 32-A, southwest outpost well of the Tomoconnor field, but got salt water in the last 20 feet. The well, which has an elevation of 57 feet derrick floor, showed oil at 5861-5940 feet and salt water at 5940-60 feet. Casing was set at 5958 feet and it will be gun perforated in the upper section.

The above well is nearest to the Greta and Fox fields and suggests that ultimately both fields will be tied into each other in this deep horizon. The Greta and Fox fields both have production at this time in that sand.

Same company's Tom O'Connor 30-A, eastern side of field, but between two wells, started off making oil, but went to salt water in sand at 5855-85 feet. It has cored to 5925 feet.

Matagorda Oil Corporation has made location and spudded in on a wildcat well in the southwesterly portion of Matagorda Island. The test is located in Lot 294 of the Brundrett 5009-acre Survey. The well is now drilling at 439 feet and is carrying a 15-inch hole. The test will be watched with considerable interest as visible surface indications are present on Matagorda Island.

MERCEDES EXTENDED

Mission.—Mercedes field, Hidalgo County, apparently has been extended 4000 feet to the east by Union Sulphur Company et al's American Rio Grande Land & Irrigation Company et al 7, which is testing the bottom 10 feet of sand at 7510-40 feet. The well drilled to 7608 feet, plugged back and set casing at 7530 feet. This test is located 660 feet from the north line and 330 feet from the east line of Tract No. 2309, Block 59. Just north of the field, Union Sulphur Company 8 is down 6775 feet and drilling ahead.

Samfordyce field, Hidalgo County, was given a slight extension to the east through the completion of Ernest Powell's George 3, which is making its allowable of 40 barrels per day through 3/32-inch choke and showing a pressure of 250 pounds on tubing. Sand was logged at 2758-66 feet. There were four producers completed on the Hidalgo County side of the field. One was finished in Starr County. Porter and Pickens abandoned Garcia Land & Cattle Company 2-B, Block 3, Porcion 100, Starr County, northwest side of the field, at 3005 feet after logging dry sand at 2792-95 feet.

SOUTH TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ATASCOSA COUNTY—		
L. L. Motes, Tr., Atascosa County Subd 1, 200 ft nl, 1300 ft wl 425-ac tr, J. Neil sur No. 1101	*	997
BASTROP COUNTY—		
G. B. Peterman et al, Z. C. Hemphill 1, 150 ft swl and nwl of tr, Bymar sur	*	2329
CALDWELL COUNTY—		
Ogden & Reed Oil Co., R. B. Vickery 2, 550 ft sel, 150 ft nel 100-ac tr, S. Damon sur, 3500 ft ne Dale field	1500	2001
DUVAL COUNTY—		
Atlantic, J. F. Welder 12-A, sec 385 (Seven Sisters)	750	2511
Bridwell Oil Co., Bishop Cattle 12, sec 76 (Loma Novia)	750	2629
Continental Oil Co., C. Driscoll Sevier 8-A, sec 50 (Driscoll)	350	3465
Tom Graham, Mac Webb 3, sec 41 (Gov't Wells)	¶5	2266
Frank Gravis, A. C. Tunlin 3, sec 78 (Loma Novia)	750	2603
Magnolia, Duval Ranch 9, sec 100 (Piedra Lumbre)	100	1972
C. W. Hahl 14, sec 67 (Loma Novia)	725	2666
W. C. McBride, E. R. Hagist 1, sec 267 (¼ mi n Hagist)	*	2183
Ralph Ogden, Bishop Cattle Co. 8, sec 135 (Gov't Wells)	50	2314
Reliance Oil Co. et al (Richardson & Kleiner) J. F. Welder 1, sec 381 (Seven Sisters)	725	2422
Texas Co., M. Vela 23, sec 42 (Loma Novia)	425	2693
M. Vela 33, sec 42 (Loma Novia)	125	2686
H. Wendt 22, sec 68 (Loma Novia)	415	2758
Valley Osage Oil Co., Wm. Hubbard 1, sec 75 (Loma Novia)	150	2585
Westheimer & Daube, Z. Campos 4, sec 224 (Seven Sisters)	900	2212
FRIO COUNTY—		
Amerada Pet. Corp., Halff & Oppenheimer 6, S. A. Ditch Co. Sur No. 1104 (Pearsall)	22,297	5467
GOLIAD COUNTY—		
Jane Oil Co., Gillette 1, J. Gomez sur (N. Pettus) wo, pb 3704	40	3707
GUADALUPE COUNTY—		
Doody Oil Co., Katy Lay 2, J. K. Davis sur (S. Darst Creek), pb 2446 ft	215	2606
W. J. Walton et al, A. Zobroski 3, J. D. Clements sur (Zobroski)	750	2230
HIDALGO COUNTY—		
J. H. Anderson, F. B. Guerra 1, sh 254, por 40 (Samfordyce)	350	2767
Harrison, Davis & Bishop, F. B. Guerra 9, tr 12, por 41 (Samfordyce)	400	2772
Hill & Hill, F. B. Guerra 3, tr 254, por 40 (Samfordyce)	400	2770
Ernest Powell, Lula George 3, sh 13, por 41 (Samfordyce)	500	2766
MAVERICK COUNTY—		
I. N. Boicourt, Bandera County School Land, 2550 ft sl, 3060 ft el of lease, sec 231	*	220
McMULLEN COUNTY—		
Loma Oil Co., L. Jacob Corp. 1-F, J. Fadden sur (Jacob)	250	972
National Pet. Co., H. L. Lark 1-C, blk 129, Lark sub Scrugham sur (Jacob)	24	977
NUECES COUNTY—		
D. H. Hawn, Wm. Shely 1, center 9-ac tr, E. Villareal sur, 3500 ft ne Saxet Heights	650	4092
Houston Oil Co., J. B. Hunter 3, sec 586 (Saxet)	800	4866
Refugio Ref. Co., J. Weil 1, 330 ft wl and nl of 80-ac, Villareal sur, 1 mi se Saxet Heights	*	5000
Republic Natural Gas Co., Baldwin 4, blk 20, Russell Farm Lots (Saxet Heights)	700	4087
Southern Minerals T. H. Isensee, sec 404 (Saxet)	1000	4403
W. F. Stone, Smith et al 1, lot 4, Ellendale Gardens No. 2 (Saxet Heights)	1500	4087
Texon Royalty Corp., Kochurek 3, sec 404 (Saxet)	850	4416
SAN PATRICIO COUNTY—		
Heep Oil Corp., R. Svedlenak 1, 330 ft nl and wl, lot 1, sec 5, first addn Taft Farm Lands	*	6032
STARR COUNTY—		
J. H. Clopton, A. K. Bass 1, center sec 357	*	2515
Ralph E. Fair, Seabury et al 2-B, sh 256, por 38 (Samfordyce)	450	2802
Porter & Pickens, Garcia 2-B, blk 3, por 100 (Samfordyce)	*	3005
VICTORIA COUNTY—		
S. A. Guiberson and Pettit, Oscar Wedemeier 1, sw 5150 ft along nwl of Jose Carabajal sur fr GH &SA Ry, thence 1320 ft se at rt/a	*	5950
WEBB COUNTY—		
Mills Bennett, A. S. Billings 1, sec 113 (Lopez)	250	2212
F. L. Garcia et al 2, sec 112 (Lopez)	550	2205
O. W. Killam, A. M. Bruni 45, sec 453 (Cole), pb 1810 ft	¶16	3012
Magnolia, J. Benavides 3, blk 8, sec 174 (Cole)	*	2887
Montour Prod. Co., A. Lopez 2, sec 111 (Lopez)	275	2233
G. G. Mortimer, F. L. Garcia et al 1, sec 114 (Lopez)	425	2167
M. L. Lopez 5, sh 12, sec 112 (Lopez)	550	2232
ZAPATA COUNTY—		
Murt Cullinan, E. Gutierrez 1, 330 ft nwl and nel of blk 4, sh 2, Fansler Partition, Comitas gr	*	2014

*Failures; †Junked; ¶Million cu. ft. gas.

POSTPONE HEARING

Austin.—The Texas Railroad Commission has postponed until March 13 hearings on the Bay City or Van Vleck field and that on the application of the McCarthy Oil Company to water-flood certain leases in Wichita County.

The hearings were postponed from March 3.

SEVEN COMPLETIONS

Lake Charles.—There was an average of one completion a day during the past seven-day period ending March 7, 1936, on the Louisiana Gulf Coast. Of the seven completions five resulted in oil producers with an initial production of 2843 barrels. The remaining two completions were failures.

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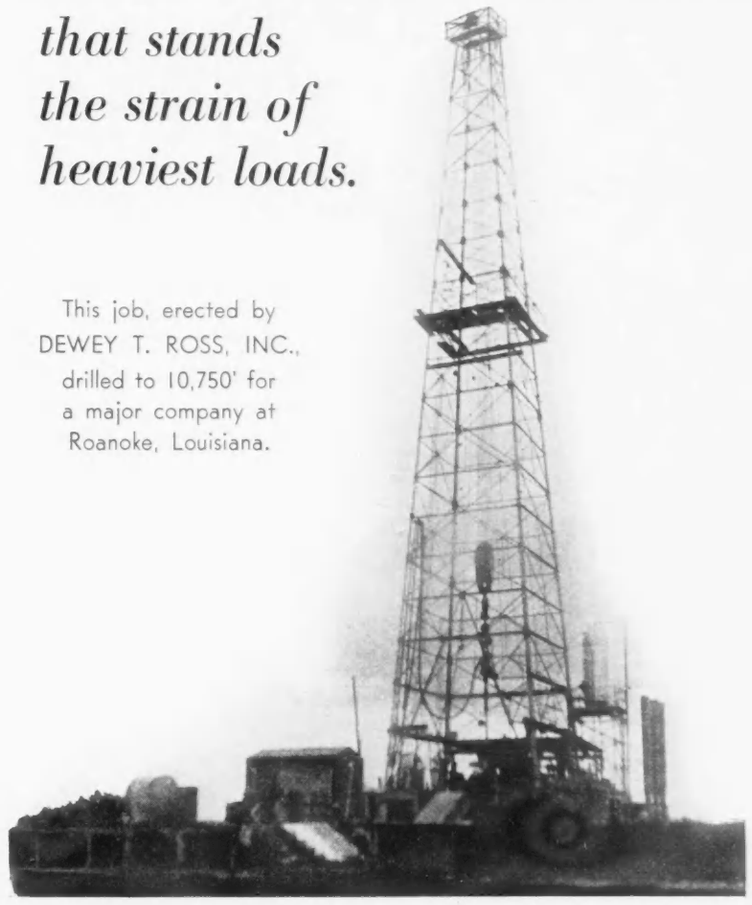

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Big Pearsall Well

SEMI-WILDCAT LEADS SEVERAL IMPORTANT BALCONES STRIKES

San Antonio. — Amerada Petroleum Corporation's Halff and Oppenheimer 6, semi-wildcat in the Pearsall district of Frio County, has been completed for an initial flow at the rate of 22,297 barrels per day to climax one of the most spectacular weeks in years in the Balcones fault zone district of South Texas. Wildcat strikes and important production tests in the Austin chalk indicate that this sector of South Texas, more or less dormant for months, again will come into the limelight for a tremendous play.

The South Darst Creek-Zoboroski area of Guadalupe County, turned in several excellent completions from the Austin chalk, partly due to acidization. In addition, a 3500-foot northeast extension to the Dale field, Caldwell County, was provided through the completion of a 35 to 50-barrel per hour producer on ½-inch choke after acidizing.

The outstanding development, of course, was the completion of the gusher by Amerada Petroleum Corporation. Halff and Oppenheimer 6 is located 466 feet out of the southeast corner of the San Antonio Ditch Company Survey No. 1104, and is 1½miles southwest of the Arthur Michael 1, discovery well in the Austin chalk. Midway between these wells is the W. R. Smith 1, which showed in the Austin chalk, but which was completed in the Buda lime at 5920-27 feet, and is the discovery well of production at that level.

The test started cleaning itself into the pits at 8:30 p.m., March 3, and was allowed to clean until 10 p.m., at which time it was turned into the tanks. It flowed until midnight, the two-hour period netting 433.12 barrels of 25 gravity oil through ¾-inch choke under a working pressure of 625 pounds. It was shut in until 2 a.m. and opened again for 15 minutes, during which time it flowed 51.45 barrels through ¾-inch choke. It was shut in again until 6:58 a.m. and opened into the pits, being allowed to clean until 7:20 a.m., at which time the open flow test began. In the hour and 25 minutes between 7:20 a.m. and 8:45 a.m. it put 1316 barrels of oil into the tanks and was showing a gas volume estimated at 12,000,000 cubic feet per day. This is calculated at 929.04 barrels per hour or 22,297 barrels per day.

This completion definitely stamps the Pearsall field as one of the major fields of the nation. The discovery well of this horizon, Michael 1, made a number of production tests, the open flow being at the rate of in excess of 800 barrels per hour.

Halff and Oppenheimer 6 has an elevation of 606 feet, derrick floor, topped the Midway at 2690-2700 feet, Navarro 3190-3200 feet, Taylor marl 5024 feet, Austin chalk at 5394 feet, set seven-inch casing at 5408 feet and drilled to 5467 feet where completion was effected.

Approximately 2½ miles farther southwest, Amerada Petroleum Corporation has rigged up standard tools and is going in to clean out Cory and McWilliams 1, Block 13, Arocha Survey, which is showing for a producer in the Austin chalk at 5569 feet. It acidized with 3000 gallons for six hours and swabbed at the rate of 50 barrels per hour, but showed insufficient pressure to flow. Continued swabbing apparently caused the hole to bridge, although it did recover 171 barrels per day on continued swabbing. It likely will be placed on pump for final completion.

Just north of the Michael producer, this company has a small well on first completion in Halff and Oppenheimer 5, S. Glenn Survey, but is to treat with acid with a large producer expected to result. It topped the chalk at 5262 feet, set seven-inch casing at 5275 feet and drilled to 5465 feet, showing 336 barrels in 24 hours.

Amerada Petroleum Corporation has six rigs running in the field and under present contracts with land owners, it is understood that this number or more will be continuously active for many months to come. The Amerada block, which originally consisted of 85,000 acres, covers virtually all the known structure, hence the work by this company will likely be the only work to be done.

Of special interest is the development of this block by this company. Approximately six years ago the company blocked the 85,000 acres, core drilled the structure, used several types of geophysical instruments, made a geological survey and located a 6500-foot Edwards lime test. That test was the Halff and Oppenheimer 1, in the W. F. Halsel Survey. The test, abandoned as a failure, is located only one-half mile northwest of the gusher completion of the past week. The present trend of the field, suggested by work thus far, indicates that the leasing done six years ago was "down the fairway."

While Amerada Petroleum Corporation's work in Frio County has attracted a hot play to the deep Austin chalk production, Guadalupe, Caldwell and adjoining counties come to the fore with important completions to indicate this zone too will be a hot spot of South Texas.

In the South Darst Creek field, Guadalupe County, Doody Oil Company's Katie Lay 2, plugged back from 2606 feet to 2446 feet and was acidized, the result being that it has been completed pumping 215 barrels per day. The well has casing set at 2368 feet. Lay 1, which materially declined in production, was acidized and came back pumping 187 barrels per day.

West of this production in the so-called Zoboroski area, W. J. Walton and Grayburg Oil Company's Zoboroski 3 swabbed at the rate of 25 barrels of oil per hour from 2230 feet. It topped the Austin chalk at 2178 feet and set casing at 2156 feet. It is interesting to note that the well showed a soft chalk in several spots rather than the hard, crystaline formation typical of the crevice wells. Several more tests are to be started immediately in the area.

Caldwell County's contribution to the hot week was Ogden and Reed Oil Company's R. B. Vickery 2, S. Damon Survey, 3500 feet north, 25 degrees east of the Dale field. It flowed an estimated 35 to 50 barrels of oil per hour through ½-inch choke after being treated with 800 gallons of acid. The well topped Taylor marl at 1795 feet, Dale lime at 1911-15 feet, Serpentine at 1915-2001 feet and bottomed at that level. A string of 5-3/16-inch casing was set on bottom and the well perforated in three spots between 1868-1975 feet.

In Bexar County, Joe Deupree's Wm. H. Russell 1, F. Rodriguez Survey, seven miles south of San Antonio, has definitely opened a new field at the base of the Taylor marl. It has been placed on pump at 1075 feet, but not gauged. It is estimated at 35 barrels per day. Casing is set at 980 feet.

WILD PETTUS WELL

Beeville. — Houston Oil Company's Mrs. C. L. Cartwright 33, in the south end of the Lucas field, Live Oak County, blew out March 4, caught fire and destroyed the derrick and rig. Late in the week it still was burning and out of control. The well had drilled to approximately 5000 feet, but the gas estimated at 30,000,000 cubic feet per day likely was coming from the shallow sand topped at 2095 feet. The gasser is located 1172 feet north of Cartwright 21 and is 808 feet east of the Missouri Pacific railroad and is in the F. Botello Survey.

The Pettus district generally is at the lowest level in many months, due mainly to completion of drilling campaigns in the majority of the fields and failure of the several wildcats to establish production.

There is a light play starting in the general area of the old Slick field on the Goliad-DeWitt county line. Several blocks have been assembled in the area and about a half dozen wells are drilling or contemplated for the immediate future. Magnolia Petroleum Company's S. J. Tipton 1 is to be drilled in the V. Ramos Survey near the south corner of the S. Thurman Survey, Goliad County. Southwestern Development Syndicate, Ltd., has taken a block including the discovery well of the Slick field in Goliad and Nueces Counties and will shortly commence a test. Farther east, Port Isabel Oil & Gas Company has commenced a test on the Duderstadt land in the S. Hall Survey. Over in DeWitt County, Hill Brothers and Koontze are nearing their 5000-foot contract level on Riedel 1.

MIRANDO ROUTINE

Laredo.—While the Mirando District is the most active area in South Texas, it is the least colorful of the week. The territory has settled down to the proposition of drilling the hundreds of inside locations already proved in the fields of Duval, Webb and Zapata Counties.

The week, however, brought a slight north extension to the Driscoll field through the completion of Continental Oil Company's Clara Driscoll Sevier 8-A, Section 50, which flowed 12 barrels per hour through ¼inch choke from the Government Wells sand at 3460-65 feet. It is showing 25 percent b.s. and w. but no salt water and has pressures of 550 pounds on tubing and 850 pounds on casing.

New Deep Field

TEST SOUTH OF BAY CITY FLOWING FROM THE FRIO

WEEKLY STAFF REPORT

Houston.—The deepest oil producing field in the Texas Gulf Coast was opened the past week when Hamman Exploration Company's Mary Cleveland 1, one and a half miles southeast of Bay City, Matagorda County, came in making 25 barrels per hour of 35 gravity pipe line oil from the Frio formation at 9361½ to 9370 feet. The Frio formation was topped at 8032 feet and the well is bottomed at 9439 feet.

Fourteen hundred feet of five-inch blank liner set from 8039 feet to 9439 feet was perforated from 9361½ to 9370 feet with 19 holes, and the well washed in with water. The first hour of flow Cleveland 1 was estimated making 25 barrels per hour through a quarter-inch choke. During the first four hours the well made around 75 barrels with a small percentage of washwater. The chokes then were changed to one eighth-inch, and the well flowed an average of four barrels per hour with a tubing pressure of 700 pounds and a casing pressure of 350 pounds. On a 12-hour gauge the well made 99 barrels of fluid. Four hours of this time it was on a quarter-inch choke and registered a tubing pressure of 800 pounds; casing pressure 300 pounds. The remaining eight hours it was on an eight-inch choke.

A 4000-foot pipe line has been constructed from the well to a loading rack on a railroad. Two 500-barrel storage tanks have been erected and additional ones are being contemplated.

The discovery well was making 15 barrels per hour March 6, 1935, through a three sixteenths-inch choke with a tubing pressure of 1040 pounds; casing pressure 1500 pounds. The well was still making a small amount of washwater.

Hamman Exploration Company, headed by John Hamman, is credited with the discovery of this new deep producing field. The company did all the geophysical work. In 1934 and 1935, under the supervision of John Hamman, Jr., and George Frederick Hamman, the area was worked with torsion balance. The geophysical instruments indicated a deep seated structure. Hamman Exploration Company has approximately 7000 acres surrounding the discovery well. Pan American Production Company, Houston Oil Company and Turnbull & Irwin have scattered holdings in the vicinity.

In drilling to 9439 feet a number of sands were found and tested. Many of these showed salt water and others carried some oil. Seven different sands are said to have been cored that may produce, and these probably will be tested in the future. A drill stem test from 5988 to 6017 feet showed 18 stands of salt water, although it is said oil was carried from 6001 to 6017 feet. At 8376 feet the well flowed salt water. Salt water sands were cored from 8380 to 8386 feet, 8433 to 8440 feet. A sand with an odor of oil was cored from 8547 to 8558 feet.

With the completion of this well as a record depth for the Texas Gulf Coast, theories and predictions that production will come from below 10,000 feet within a year or two are substantiated. The well is over 1300 feet into the Frio formation, giving indications that nearby geophysical prospects stand a good chance of producing commercial oil in large quantities if heaving shale can be drilled.

There has been considerable confusion

A New Gulf Coast Map

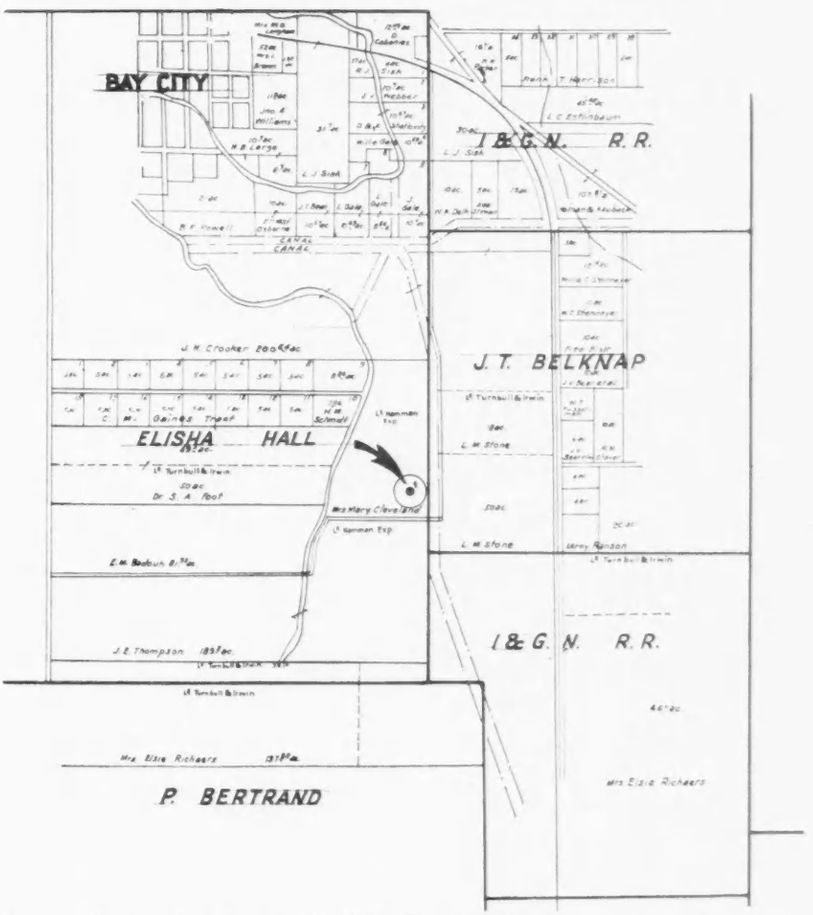
A NEW map of the Texas-Louisiana Gulf Coast, and covering also Southwest Texas, up-to-date as of March 10, size 22 by 44 inches, printed on tough bond paper, will be a feature of the Gulf Coast and Engineering and Development issue of THE OIL WEEKLY, March 16.

The map will show every producing field in the Gulf Coast, prospective fields on which data has been collected by THE OIL WEEKLY editors, county lines, pipe lines, gas lines and highways. In addition it will show similar data available on Southwest Texas, a total of 625 fields and prospects.

It will be in such form as to enable a user to find on it immediately the field or prospect he is looking for.

THE OIL WEEKLY'S Gulf Coast map is the result of much work and of splendid cooperation on the part of operators in the Gulf Coast area. Each year it has been issued it has been recognized as the most complete compilation issued.

If you would be sure to have those extra copies of the Gulf Coast issue which you may need, better order them now—$.50 per copy.



Hamman Exploration Company's Mary Cleveland 1, the discovery well for the deepest producing field in the Texas Gulf Coast. (Map courtesy of Gulf Coast Engineering Company.)

about operators as to the name for the new field. It has been suggested that it be listed as the Hamman or Two Brothers field after the operators. Others are of the opinion it should be called Bay City, while others suggest South Bay City. The Van Vleck field, located near the small hamlet of Van Vleck, has been called Bay City by some, although it is generally known as Van Vleck. South Bay City would eliminate any confusion between the two areas.

Waiting Amelia Test

NORTH EXTENSION TRY PLUGS BACK FROM SALT WATER

Houston.—Interest on the Texas Gulf Coast during the past week was centered around Glenn H. McCarthy's Longe 1, over two miles north of the new Amelia-West Beaumont field in Jefferson County. At the end of the week operators had plugged back from 6820 to 6150 feet and will wait until cement hardens and perforate casing for a production test March 9.

There is much excitement about the test. Some say that it will produce salt water, as a large amount of water sand had been cored, while others believe it stands a good chance of extending production.

Sands showing saturation of two to five percent have been cored, with an electrical logging device showing more than nine ohms, which might indicate that the well will produce. The operators plan to give each sand a thorough test and have ordered storage tanks.

It is recalled the previous week that the well made a drill stem test from 6052 to 6118 feet and it showed oil, mud, gas and salt water. The tool slipped and the operators failed to receive a true test of the sands. Since the drill stem test the hole was drilled to 6820 feet, encountering salt water sands and additional oil shows.

Cores from 5787 to 6118 feet showed odors of oil and from three to four percent saturation. This 21 feet of sand was reported as the best sand section; from 6749 to 6761 feet the cores showed gas.

Anahuac Extended

The Anahuac field, Chambers County, was extended one location east during the week when Humble Oil & Refining Company completed Broussard B-4, 900 feet east of Broussard B-3, H.&T.C., Section 63, for 27 barrels per hour through a quarter-inch choke. The hole was drilled to 7083 feet in oil sand with the top of the sand found at 7046 feet. Seven-inch casing was set at 7042 feet. The well did not encounter the regular gas sand for the field. It showed a tubing pressure of 850 pounds; casing pressure 1050 pounds. The gas/oil ratio was 443 to 1.

Humble Oil & Refining Company's Middleton 14, H.&T.C., Section 58, was completed at 7082 feet in oil sand for an initial production of 30 barrels per hour through a quarter-inch choke. Tubing pressure was 1250 pounds; casing pressure 1000 pounds. The well topped the Discorbis at 5972 feet, Heterostegina 6212, Marginulina 6486, Frio 6886, gas sand 6886 and the oil sand at 7010 feet.

Sun Oil Company's White 8, J. McGhey Survey, in the north Anahuac area, has been finaled at 7084 feet, making 700 barrels daily through a quarter-inch choke. Top of the oil sand was found at 7010 feet and the gas sand at 6776 feet.

Humble Oil & Refining Company was also preparing to complete three additional wells in the field at the end of the week. White 7, on the north side of the field was waiting on cement to set after setting seven-inch casing at 7065 feet with the bottom of the hole at 7085 feet in oil sand. Top of the sand was at 7025 feet. Tyrell 4, H.&T.C. Section 52, also was waiting on cement at 7040 feet. Top of the sand was found at 6960 feet and the bottom of the sand at 7082 feet.

Humble Oil & Refining Company's Wilcox 1, on the northeast flank of the field and which indicates that it will extend the field one location in this direction, drilled into oil sand at 7025 feet and quit at 7085 feet after setting seven-inch casing at 7053 feet. At the end of the week operators were waiting on cement to harden. The same operator's Clark 9, H.&T.C. Section 57, was at 7076 feet in oil sand at the end of the week with the top of the sand found at 6849 feet. Seven-inch casing was set at 7028 feet.

Humble Oil & Refining Company has made location for Broussard 10, which is on the southeast flank of the field, 466 feet west of the east line and 1337 feet north of the south line of the H.&T.C. Section 63.

Sun Oil Company has made location for White 9, 1325 feet north of the south line and 3689 feet west of the east line of the J. McGahey Survey.

South Houston Active

The South Houston field, Harris County, had the most active week since discovery. Five wells were completed—three oil producers and two failures. Stanolind Oil & Gas Company completed four, and Diadem Oil Company abandoned a test.

Stanolind Oil & Gas Company's Drilling District 25, H.&T.B. Section 5, was completed at 4775 feet in oil sand. Top of the sand was found at 4647 feet and seven-inch casing was set at 4616 feet. The well came in for 18 barrels per hour through a quarter-inch choke with a tubing pressure of 430 pounds; casing pressure 700 pounds.

The same operator's Griffin 1, south offset to Diadem Oil Company's Dean 1, H.&T.B. Section 6, was completed for a pumper, making 80 barrels in six hours. The well topped the Discorbis at 4569 feet, failed to encounter any Heterostegina, and had Marginulina at 4714 feet.

Drilling District 5 was worked over and completed at 4780 feet making 596 barrels daily through a quarter-inch choke with a tubing pressure of 700 pounds; casing pressure 560 pounds.

Drilling District 10 was completed at 6850 feet in salt. The well was abandoned after using the hole for geophysical work. It was the deepest hole in the field. Top of the salt was found at 4682 feet.

Diadem Oil Company's Summers 1, M. Nichols Survey, was abandoned at 5067 feet. The well made a drill stem test from 4835 to 4850 feet but failed to show anything. The well topped the Discorbis at 4305 feet and had the Heterostegina at 4713 feet.

Stanolind Oil & Gas Company has made four new locations in the field. Drilling District 4 is in the H.&T.B. Section 4, and is in the center of Lot 18, Block 6 of South Houston townsite.

Drilling District 6 is located in the H.&T.B. Section 5, center of Lot 5, Block 11. Drilling District 7 is in the center of Lot 10, Block 37, and Drilling District 20 is in the center of Lot 5, Block 61.

Three at Hastings

Three new producers were added to the Hastings field, Brazoria County, during the past week. Two new producers were completed by Stanolind Oil & Gas Company and one by Humble Oil & Refining Company.

Humble Oil & Refining Company's Cannon 3, H.&T.B. Section 36, in the north side of the western part of the field, was completed at 6050 feet in oil sand. Top of the sand was found at 5797 feet. After setting seven-inch casing at 5960 feet the well came in for 27 barrels per hour through a quarter-inch choke with a tubing pressure of 800 pounds; casing pressure 775 pounds. The gas/oil ratio was 386 to 1.

Humble Oil & Refining Company has made location for Cannon 4, 330 feet north of the south line and 330 feet east of the west line and 660 feet south of Cannon 3 in the H.&T.B. Section 36.

Stanolind Oil & Gas Company's Autrey 1, on the southwest side of the field was finaled at 6089 feet after topping the oil sand at 5934 feet. The well came in for 201 barrels in nine hours through a quarter-inch choke with a tubing pressure of 800 pounds and casing pressure 800 pounds.

Stanolind Oil & Gas Company's Shaw 4, H.&T.B. Section 36, was completed at 6715 feet in oil sand with the top of the formation encountered around 5526 feet. The well came in for 282 barrels in 12 hours through a quarter-inch choke with the tubing and casing pressure registering at 825 pounds.

Pickett Ridge Extended

Pickett Ridge, Wharton County, was extended south and southwest during the past week when The Texas Company completed two wells. Pierce Estate A-10 was completed at 4709 feet after setting seven-inch casing at 4702 feet. The well came in for 22 barrels per hour through a quarter-inch choke with a tubing pressure of 1135 pounds; casing pressure 1175 pounds.

Pierce Estate A-11 was completed as a gas well at 4705 feet. Seven-inch casing was set at 4705 feet and the well came in making a half million cubic feet of gas daily through an eighth-inch choke with a tubing pressure of 1460 pounds; casing pressure 1375 pounds. The well topped the Discorbis at 3961 feet, Heterostegina 4298 feet, failed to pick up the Marginulina and found the Frio at 4670 feet.

The operators have made location for

Pierce Estate A-15. It is in I.&G.N. Section 39, 933 feet west from Pierce Estate A-11.

Van Vleck Extension

Skelly Oil Company's Cobb B-5, M. Cummings Survey, Van Vleck field, Matagorda County, gave indications the past week of extending the producing limits of the field approximately 2500 feet west when it cored oil sand at 7503 feet after topping the sand at 7464 feet. At the end of the week the operators were running seven-inch casing to make a production test. The well topped the Discorbis at 5835 feet, Heterostegina 6250 and the Marginulina at 6620 feet.

The same operator's Metzger 1, 957 east of production, M. Cummings Survey, was coring in oil sand March 6 at 7490 feet after topping the pay sand at 7472 feet.

Cotton Lake Location

Salt Dome Oil Company has announced a location for the Cotton Lake prospect in Chambers County. Lawrence 2 is 275 feet from the most southerly north line and 275 feet from the south and 330 feet from the east line of a 41.5-acre tract out of a 73-acre tract in the S. Burney Survey. After Salt Dome Oil Company drills this wildcat it is reported that Atlantic Oil Producing Company will drill on the West Cotton Lake prospect where the company took a block some time ago after working with torsion balance.

Harris County Wildcat

A wildcat location has been reported in the Satsuma-Fairbanks area of Harris County. Stanolind Oil & Gas Company will drill in W.C. R.R. Section 2, 1350 feet south and 600 feet west of the northeast corner of the survey. The company has a large block in this area which was taken from Johnson & Johnson. Hill & Hill drilled a dry hole in this area.

The Burnett Bay prospect, Harris County, received its first setback during the past week when Cockburn Oil Corporation and Shell Petroleum Corporation's T. W. Tompkins 1, N. Lynch Survey, was finished as a dry hole in salt water sand at 7008 feet. The test had several sands which carried salt water. The Discorbis was topped at 4812 feet, Heterostegina 5080, Marginulina 5279 and Frio at 5488 feet.

The second location has been made in the Hardin field, Liberty County. Atlantic Oil Producing Company and Bracey plan drilling E. Edna Hardy 1, in the James Robeson Survey, being 425 feet east of the west line, center of the north and south line of a 20-acre tract, or approximately 1800 feet south of the north line and 1400 feet west of the east line of the survey. It is approximately 3660 feet north of the discovery well.

Since Jack Frazier discovered the Hardin field some time ago there have been no locations announced in the field. It is reported that one major oil company has paid around $250 per month in royalty to keep from making a location in the field.

Gulf Oil Corporation's Fairfield 1, Lockridge prospect, 4750 feet north of the same operator's Wilkes Smith 1, which was abandoned some time ago, A. Robeson Survey, Brazoria County, was preparing to make a drill stem test at the end of the week after coring oil sand at 6274 feet. Top of the oil sand was found at 6267 feet. The well is reported running over 100 feet higher than the abandoned hole. Fairfield 1 topped the Large Discorbis at 5636 feet and the Heterostegina at 5850 feet.

The California Company and Salt Dome Oil Company have announced that the two companies will work together on geophysical work on 60,000 acres recently taken in Galveston Bay from the state. The operators have also agreed on unit operations in this area if any drilling is to take place.

A statement issued by the two companies follows:

"As a result of recent sale of state leases in or adjacent to Galveston Bay, there were awarded to The California Company, through its nominees, R. H. Morrison, T. A. Knight, W. R. Harris and R. S. Baker, and to The Salt Dome Oil Corporation, C. R. Wharton and H. M. Lovett, leases covering approximately 60,000 acres. These parties have agreed to conduct seismograph surveys covering these lease blocks, and where this geophysical work results in the outlining of structures under these holdings, provision has been made for the drilling of wells to test these prospects for oil."

HARLEY E. WOODWARD, 34, of Houston, sportsman and amateur flyer, and son of E. F. Woodward, wealthy oil man, was killed March 5 when his plane crashed on a mountain side in Arkansas. His cousin, Edward Martin, of Daisetta, Texas, also was killed in the crash.

TEXAS GULF COAST
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ANAHUAC—		
Humble, Broussard 4	648	7083
Middleton 14	720	7082
Sun, White 7	700	7084
CLEVELAND—		
Gulf, Kirby C-13	516	5870
CONROE—		
A. A. Cameron, Dudley 5	129	5077
Hooper-Rutherford, Hooper 3-A	336	5099
South Gulf Oil Co., Granger B-2	364	5045
DAMON MOUND—		
Sinclair-Prairie Oil Co., Masterson 3	20	1614
HASTINGS—		
Humble, Cannon 3	648	6050
Stanolind, Autrey 1	528	6089
Shaw 4	564	5715
HULL—		
Gulf, Phoenix 98 (wo)	*	4425
Houston Prod. Co., Baldwin 3	300	5177
LIVINGSTON—		
Humble, Grandbury 26	339	4205
MANVEL—		
Texas Co., Houston Oil Field Association B-19	450	5150
MARKHAM—		
Hamil & Hamil, Kountz 4	*	3998
PICKETT RIDGE—		
Texas Co., Pierce Estate A10	½	4705
Pierce Estate A-11	528	4708
SOUTH HOUSTON—		
Diadem Oil Co., Summers 1	*	5067
Stanolind, Drilling District 5 (wo)	596	4780
Drilling District 10	*	6850
Drilling District 25	352	4775
Griffin 1	340	4875
HARRIS COUNTY—		
Cockburn & Shell, Thompkins 1, Burnett Bay prospect, N. Lynch sur	*	7008
Glenn H. McCarthy, Houston Ship Channel 1, Cockburn prospect, R. R. Vince sur	*	6028
MATAGORDA COUNTY—		
Hamman Exploration Co., M. Cleveland 1, South Bay City, E. Hall sur	230	9370
POLK COUNTY—		
Morgan Dev. Co., Root 1, s of Barnom, L. Castillian sur	*	700

*Failures; †Junked; ¶Million cu. ft. gas.

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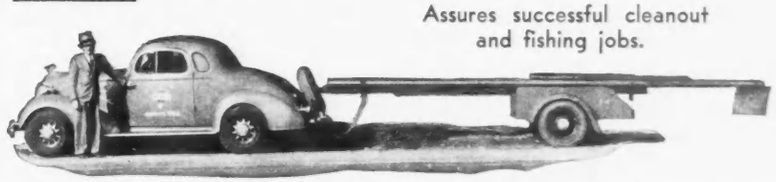

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New Jeanette Sand

HOUMA TOWNSITE TEST IS BELOW 10,150 FEET

Lake Charles.—The most interesting developments in the Louisiana Gulf Coast the past week were discovery of a new producing sand in the Jeanerette field, St. Mary Parish; completion of operations on a test between the Gillis and English Bayou fields, Calcasieu Parish; the drilling of the fourth 10,000-foot test in the area, and the showing of oil in a wildcat in St. Martin Parish.

A new producing sand was definitely discovered in the Jeanerette field, St. Mary Parish, when Herton Oil Company completed Roane 2, 825 feet south of the discovery well, in sand from 6652 to 6665 feet. On a production test the well flowed 1098 barrels daily through a 5/16-inch choke with a tubing pressure of 1000 pounds. The casing pressure was also 1000 pounds. The oil tested 36.7 gravity. Seven-inch casing was set at 6651 feet and 2½-inch tubing was hung at 6655 feet. It is the second well in the field.

Fohs Oil Company's Frost (Salt Dome) 1, Section 11-9s-8w, between the Gillis and English Bayou fields, Calcasieu Parish, took a drill stem test from 5259 to 5269 feet and showed 11 fourbles of 29.5 gravity oil with a 275-pound pressure. At the end of the week the operators were washing the well in. Fohs Oil Company's Frost 1 is in a graben, as shown on a cross-section in THE OIL WEEKLY, May 27, 1935, page 63.

Fohs Oil Company worked out several faults in this area and drilling to date has proven just where the faults exist. It is remarkable how exact Fohs Oil Company has been in finding production where it was otherwise thought barren.

The company has made location for McIver 1. It is a south offset to Frost 1.

In the English Bayou area, Fohs Oil Company is preparing to complete Castle 10. The well is down to 7065 feet in oil sand topped at 7022 feet. Gas sand was found from 6998 to 7016 feet. The operators are running seven-inch casing. The company has made location for M. Melber 1, 250 feet west and 225 feet south of the northeast corner of Section 14-9s-8w.

Union Sulphur Company's Castle, northeast of the English Bayou field and southeast of the Gillis field, and in the graben between the two fields, was in sand showing oil at 6046 feet during the past week. Top of the sand was found at 6043 feet. A drill stem test taken from 6043 to 6046 feet showed one stand of oil and mud through a quarter-inch choke in one minute.

Union Sulphur Company's Barbe 6, Section 11-9s-8w, on the north side of the Gillis field, was waiting on cement to set at the end of the week. The well is bottomed in oil sand at 6733 feet. Top of the sand was found at 6730 feet. Five-inch casing was set at 6728 feet.

Union Sulphur Company has made location for G. S. Cole 1. It is 250 feet east and 225 feet north of the southwest corner of the Cole tract in Section 12-9s-8w.

The fourth 10,000-foot test for the Louisiana Gulf Coast was realized the past week, when Shell Petroleum Corporation's Realty 1, Houma Townsite prospect, Section 103-17s-17e, was drilling at 10,150 feet. This is the first wildcat on the Gulf Coast to drill to this depth with 7664 feet of open hole. The operators set 13¾-inch casing at 2486 feet and 20-inch at 72 feet and are drilling with an open hole.

Several wells in the Bosco field, Acadia and St. Landry parishes, have drilled to depths below 8900 feet with more open hole than Realty 1. Superior Oil Producing Company's A. Martinez 1, southwest flank test, which was abandoned at 10,002 feet and being the first well in the Gulf Coast to reach 10,000 feet, set 13¾-inch casing at 1276 feet and drilled to 9320 feet and then set seven-inch casing. This is believed to be the greatest depth of open hole yet drilled in the area.

It was reported some time ago that General Crude Oil Company had made a deal with Continental Oil Company to do geophysical work on the west side of the Tepetate field, Acadia Parish, and if the geophysical work proved satisfactory the operators would drill a well. During the past week General Crude Oil Company made location for Vincient 1. It is 1000 feet east along the property line from Bayou Mezpeque thence at right angles 330 feet in Section 31-7s-2w.

Continental Oil Company has made location for three new wells in the field. A. Young 1 is center S½ NE SW 29-7s-2w. It is a south offset to Homeseekers Development Company 1. A. Ortego 1 is in the center of the N½ NE SE 29-7s-2w. A. Breckenridge 1 is in the center of the N½ NE NE 29-7s-2w.

In Avoyelles Parish, Frost Oil Company has made location for Hinds Lumber Company 1. It is 330 feet north and 330 feet west of the southeast corner of Section 3-3n-4e.

SOUTH LOUISIANA
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
EAST HACKBERRY—		
Stanolind, Gulf Lake B-22	648	5887
JEANERETTE—		
Herton Oil Co., Roane 2	1098	6665
JENNINGS—		
Stanolind, Houssier Latrielle 15	460	7485
PORT BARRE—		
Port Barre Oil Co., Sibille 1 (wo)	37	3476
SULPHUR—		
Union Sulphur Co., Fee 798 (wo)	600	3562
VINTON—		
Ged Prod. Co., Lisso 1	*	4176
EVANGELINE PARISH—		
Basile Oil Co., Hirsch 1, section 14-6s-2w	*	8438

*Failures; †Junked; ¶Million cu. ft. gas.

Shell Petroleum Corporation was preparing to complete Carter 2 in the Roanoke field, Jefferson Davis Parish, at 8060 feet in sand showing oil. Top of the oil sand was 8652 feet. Seven-inch casing was set at 8667 feet. An electrical logging device showed 38 ohms.

Humble Oil & Refining Company's Devilbiss 3-B, Section 11-9s-4w, was in oil sand at the end of the week at 8833 feet, having had sands showing oil from 8831 to 8833 feet.

Shell Petroleum Corporation's Colonial Sugar 1, Convent prospect, Section 5-12s-5e, St. James Parish, was drilling in shale at 4631 feet after making a drill stem test which showed salt water. The drill stem test was made from 4522 to 4537 feet. It made 16 barrels of mud and salt water with a faint odor of oil. The test was made in 10 minutes through a quarter-inch choke.

Basile Oil Company abandoned Hirsch 1, on the North Basile prospect, Section 14-6s-2w, at 8438 feet after sticking the drill pipe. The well had several showings of oil from 6520 down to the present depth.

The Texas Company's St. Martin Land Company 8, Henderson prospect, Section 9-8s-7e, St. Martin Parish, was drilling ahead at 6302 feet in sticky shale at the end of the week showing oil. Top of the showing was found at 6298 feet. The well also had showings of oil from 6150 to 6161 feet and 6195 to 6199 feet. This is the sixth showing of oil the well has had in the past two or three weeks.

PLAN FIELD TRIPS

Houston.—Extensive activity in many fields and plants of the Gulf Coast will provide visitors an opportunity to see tools in actual use when they come to inspect displays at the Seventh Oil Equipment and Engineering Exposition, which is to be held in Houston, April 20 to 25 inclusive. Arrangements have been made for visitors from foreign countries and from other sections of the United States to see the methods and equipment in use in surrounding fields. Daily trips to nearby fields and plants have been arranged for these visitors.

Other special features will include the annual first-aid contest. Several teams have been preparing for this event for a number of weeks. Since only one team from each company is allowed in the open contest, elimination events in different concerns are being hotly contested.

Entertainment features include a golf tournament, daily events for the ladies and the annual banquet.

The new invention exhibit, inaugurated several years ago, will be enlarged. Free space is given in this section to inventors and patentees of oil tools for the purpose of showing models and designs of new equipment. The object of this department is three-fold. It gives manufacturers an opportunity to inspect new designs that may fit in with their present line of products; it provides a contact between the inventor and prospective manufacturer; and it indicates to the oil man the trend in design.

Due to better conditions, exhibitors are planning more elaborately decorated displays than in previous years. Prizes will be awarded for the best exhibits.

Lack Outlet

RODESSA DRILLING DROPS PENDING MORE PIPE LINES

NORTH LOUISIANA

WEEKLY STAFF REPORT

Shreveport.—Drilling activity at Rodessa showed its first signs of slackening last week with only three new locations made and active drilling operations dropping to 42, 25 of which were drilling below 5000 feet. There were also 4 tests rigging up and 11 other active locations and derricks.

Six wells were completed in the field boosting the total number of producers to 96, all of which except 2 have pipe line connections. None of the wells extended production.

Two factors are believed responsible for the decline in production. First there is not sufficient outlet to care for the allowable production, and second, three of the largest producers in the field are reported in negotiation for sale of their oil properties there. Magnolia Petroleum Company, Standard Oil Company of Louisiana, Humble Oil & Refining Company, and Atlantic Oil Producing Company are mentioned as possible purchasers of three of the largest producers. One of the largest independents in Rodessa is reported to be turning a deaf ear to overtures to sell, preferring to continue operations.

Lines Proposed

At any rate, the pipe line outlet problem will soon be solved with proposed pipe lines, those being built and present outlets. Pipe lines being built or in operation or contemplated would give the field a daily outlet of 175,000 barrels of crude daily. These lines are: Standard Pipe Line Company, which built the first line to the field, an 8-inch line with capacity of 40,000 barrels daily. This company is buying 17,450 barrels daily on its own account and handling 5000 barrels daily for others. Gulf Oil Corporation is buying 13,500 barrels daily and handling this through its 6-inch line which has a daily capacity of 15,000 barrels but is contemplating adding more loops to boost its capacity to 20,000 barrels daily. Magnolia Petroleum Company and East Texas Pipe Line Company are each constructing 8-inch lines to the field capable of handling 30,000 barrels daily each. Contemplated lines which are assured for the field are: Arkansas-Louisiana Gas Company, a 6-inch line with daily capacity of 15,000 barrels; Atlantic Oil Producing Company, an 8-inch line with 30,000 barrels daily capacity; and The Texas Pipe Line Company's 6-inch line with 15,000 barrels daily capacity. Besides these Griswold Refining Company's refinery at Rodessa has contracted for 1900 barrels daily.

Pipe line runs last week averaged 38,200 barrels from Rodessa and stocks in the field totaled 60,350 barrels. Daily average production from 95 oil wells at Rodessa last week was 36,565 barrels.

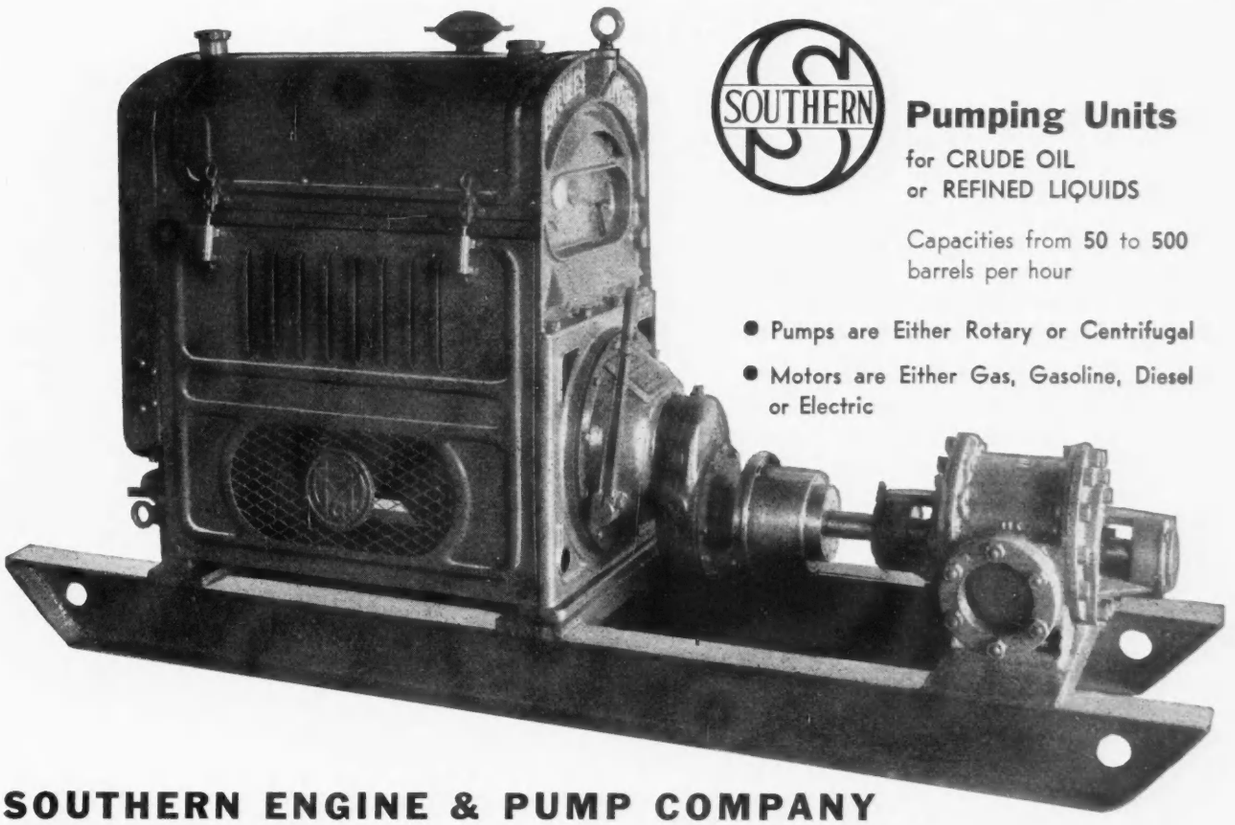
Following are the producers at Rodessa with number of wells, production, and pipe line outlets:

Arkansas-Louisiana Gas Company, 5 wells, production, 2008 barrels, Standard Pipe Line Company.

Bartex Pipe Line Company, 2 wells, 66 barrels, Standard Pipe Line Company.

Danciger Oil & Refining Company, 1 well, 496 barrels, Griswold Refining Company.

Haynes Production Company, 26



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wells, 8153 barrels, Standard Pipe Line Company; Lion Oil Refining Company, 1 well, 216 barrels, Standard Pipe Line Company.

McAlester Fuel Company, 2 wells, 931 barrels, Griswold Refining Company.

Manahan Oil Company, 1 well, 95 barrels, no pipe line outlet.

Marr & Perkins, 2 wells, 594 barrels, Standard Pipe Line Company.

R. W. Norton, 9 wells (two in Texas), 3180 barrels, 2 Standard Pipe Line Company, 7 Gulf Refining Company connections.

O'Brien Brothers, 2 wells, 755 barrels, Standard Pipe Line Company.

Pelican Oil & Gasoline Company, 12 wellls, 4855 barrels, Standard Pipe Line Company.

United Gas Public Service Company, 30 wells, 13,983 barrels, 7 Standard Pipe Line Company, 23 Gulf Refining Company connections.

Vaughn Production Company, 3 wells, 850 barrels production, Griswold Refining Company.

Haynes Production Company's Zylks 1, SE SE 9-23n-16w, one mile west of the previous northwest outpost producer at Rodessa completed at 5994 feet recently has increased its flow of oil and lessened its distillate yield. On a test last week it flowed 23 barrels of oil per hour and 49 gravity oil through open tubing with tubing pressure 100 pounds and casing pressure, 500 pounds. It also is making some gas as are several other wells in the field, the gas/oil ratio being one of the field's problems.

Haynes Production Company has 133,180 barrels of crude in field storage and has discontinued increasing its stocks due to lack of space. It is reported this company does not wish to sell its stored oil at present prices and refill with back allowable.

In connection with Arkansas-Louisiana Gas Company's plan to extend its Shreveport-Oil City line to Rodessa, its subsidiary, Louisiana Oil Refining Corporation, is planning to spend $350,000 on its Bossier City refinery to handle Rodesssa crude.

J. Edward Jones-Delta Drilling Company's Neugent 1, Section 23-23n-16w, in the Rodessa townsite, has 4000 feet of oil in the hole but refused to flow after extended swabbing. Casing was perforated with 30 shots at 5993-6001 feet, with total depth of 6010 feet, and after it refused to flow was tied in with Eastern Texas Production Company's School Board 1, in the same section, and rocked with high pressure gas. Two-inch tubing was run to 6001 feet. It was reported that late Thursday afternoon the well was making some oil.

Bienville Show Important

Although the horizon carried a large amount of salt water, the fact that porous oolitic lime in the Glen Rose horizon below the anhydrite corresponding to the Gloyd sand, the second of three gas producing horizons at Rodessa, was logged in Texas-Seaboard Oil Corporation's McGee 1, Section 3-16n-6w, Bienville Parish, in the North Louisiana Basin last week is considered of importance. The well checked normally down dip from the discovery gas well at Simsboro, Lincoln Parish, in Section 10-17-4w, and is being abandoned at 5905 feet.

This test after logging base of last stringer of anhydrite at 5562 feet cored a hard crystalline tight sand at 5659 to 5663 feet corresponding to the Fowler sand in the Lincoln Parish well and tested dry in a drill stem test, from 5562 to 5732 feet. The test then was deepened and cored a porous oolitic lime equivalent to the Gloyd at Rodessa from 5776 to 5815 feet which tested nine fourbles of salt water in five minutes. Elevation is 305 feet.

Lide & Greer's Davis Lumber Company Section 12-16n-5w, Bienville Parish, with elevation of 217 feet, logged top of the first stringer at 5160 feet and logged massive anhydrite at 5396 feet. It is shut down waiting for drill pipe at 5608 feet in broken anhydrite.

In Bienville Parish, northeast of Gibsland, Standard Oil Company of Louisiana has just completed detail work of the north half of township 18 north, range 6 west and the south half of 19 north, range 6 west, using seismograph and has been taking leases in the area. Stanolind Oil & Gas Company, Sun Oil Company, H. L. Hunt, Incorporated, Magnolia Petroleum Company and Tide Water Oil Company are buying acreage in the vicinity.

In Jackson Parish, Arkansas-Louisiana Gas Company is checking its block in township 17 north, range 3 west, with seismograph. In Townships 14 and 15 north, ranges 1 and 2 west of the same parish, Gulf Oil Corporation has leased approximately 4000 acres, H. L. Hunt, Incorporated, 1000 acres and Sun Oil Company, 2500 acres.

A Geophysical Service crew recently has completed a profile from Jamestown to Castor, both in Bienville Parish. In the same parish, Gulf Oil Corporation has a shooting crew working in Section 36-15n-11w and in township 18 north, range 5 west, Standard Oil Company of Louisiana has a seismic crew working. Magnolia Petroleum Company has a shooting crew working in southern Red River Parish south of Coushatta. Centering around Section 25-12n-9w, Arkansas-Louisiana Gas Company is filling in a block it is leasing.

Alexander and associates' Stell 1, Section 5-12n-16w, DeSoto Parish, recovered approximately half of a 10-foot core of porous limey sand that had a distinct oil odor cut from 5433 to 5443 feet last week and later was coring ahead at 5498 feet, planning if nothing in the way of production is encountered between there and 5750 feet to run an electrical tester at the 5433-43-foot horizon. This test logged a soft formation from 5262, base of the stringer anhydrite, to 5310 feet, little of which was recovered but which cuttings indicated was oolitic. Base of the massive anhydrite was 5247 feet. First anhydrite stringer was logged at 4960 feet; elevation is 245.6 feet.

Another North Louisiana wildcat that created interest and then when tested showed 10 stands of salt water in 10 minutes is being abandoned at 5172 feet. This test was Ryan Oil Corporation's Gladney 1, NE SW 27-20n-7w, Claiborne Parish. This test logged anhydrite from 4485 to 4960 feet; elevation is 343 feet. Formation tester was set at 5140 feet, with total depth of 5152 feet. From 5146 to 5152 feet there

Sligo Gasoline Plant

Shreveport.—Keith Jones of Shreveport and a group of associates of Chicago are planning to erect a casinghead and carbon black plant in the Sligo gas field in Bossier Parish, where a saturated Glen Rose gas is found at 4200 and 5200 feet, the latter zone below the anhydrite having recently been discovered by Producers Oil & Gas Company in Pettit 1, Section 17-17n-11w. The proposed plant would use fifty million cubic feet of gas daily. Construction is expected to begin as soon as certain details are worked out between Jones and Producers Oil & Gas Company.

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was sand believed to correspond to the Hill sand at Rodessa which had streaks of oil in it and was fine-grained with medium porosity.

Gulf Oil Corporation having reached contract depth of 2700 feet, has abandoned W. H. Thiasher 1, SW SW 13-15n-7w, Bienville Parish, on a 4000-acre block recently acquired from Walter George of Shreveport.

Shreveport.—Twenty drilling permits were issued last week by the minerals division, Louisiana Conservation Commission of which 9 were for North Louisiana divided among the following parishes: Caddo, 5, including 4 at Rodessa; Morehouse, 2, and Union, 2. The 11 in south Louisiana were divided among the following parishes: Acadia, 3; Avoyelles, 1; Calcasieu, 1; Cameron, 1; Iberia, 1, and La Fourche, 4.

NORTH LOUISIANA
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BIENVILLE PARISH—		
Gulf, W. T. Thiasher 1, 13-15n-7w..	*	2700
Texas-Seaboard, McGee 1, 3-16n-6w	*	5903
CLAIBORNE PARISH—		
Ryan Oil Co., Gladney 1, 27-20n-7w	*	5172
CADDO PARISH (Rodessa)—		
Bartex Pipe Line Co., Rodessa 1, 13-23n-16w 5000		6011
Haynes Prod. Co., Lawton 9, 14-23n-16w 10,000		6044
Sexton 8, 14-23n-16w 10,000		6022
Pelican O&G Co., Sexton 10 14-23n-16w 8000		6019
United Gas, Rodessa 8, 22-23n-16w..8000		5990
Rodessa 9, 22-23n-16w 5000		6015
WINN PARISH—		
P. E. Parsons et al, Tremont Lbr. Co. 1, 10-12n-2e	*	4510

*Failures; †Junked; ¶Million cu. ft. gas.

ARKANSAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
SEVIER COUNTY—		
Pendleton & Vaughan, Dierks Lbr. Co. 1, 14-10-29	*	950

*Failures; †Junked; ¶Million cu. ft. gas.

ARKANSAS PERMIT

El Dorado, Ark.—One drilling permit was issued during the last week by the Arkansas Board of Conservation as follows: Union County, J. C. Buckbee, Trustee, El Dorado, Arkansas, Harry Ezzell 1, located 330 feet north and east SWc NE NW 13-17-15.

MISSISSIPPI

Jackson, Miss.—The Mississippi State Senate last week voted 42 to 1 to appropriate $115,000 to drill nine tests, seven for gas and two for oil, on 1320 acres of state-owned land in and around the Jackson gas field, in Hinds and Rankin Counties. Numerous bids have been submitted at different times for this land by companies and individuals.

Cranfill and Germany of Dallas, Texas, will take over Mid-Continent Development Company's Lee 1 in Washington County, Mississippi, shut down for several months at 2996 feet, and deepen it to 3400 feet.

Change Proration

MONUMENT ALLOWABLE TO BE BASED ON PRESSURES

WEEKLY STAFF REPORT

Hobbs.—Apportionment of production allowable of wells in the Monument field, Lea County, will be based upon bottom-hole pressure readings as a substitute for the prevailing method of prorating on a flat quota per well schedule. Operators endorsed the plan at the last monthly hearing conducted by the New Mexico Oil Conservation Commission at Santa Fe as an alternative to demands for a potential flow basis. Majority of the members of the Commission have indicated their approval of the change, and an official order is expected shortly.

Engineers have taken bottom-hole readings on a large percentage of the completed wells, and it is believed that the shift in method of proration can be accomplished by the close of March.

Crude allowable for the field would not be affected by the change, as the total number of wells would be the governing factor in determining the field's quota of the limited market provided for flush areas in Lea County. The commission has tentatively set a 65-barrel daily minimum for individual wells in order to safeguard the state's royalty revenue from fee land, and also to protect operators holding wells in the low pressure areas from economical confiscation. A number of the operators asked for a smaller minimum level. Under the flat production quota, wells in the Monument field are currently prorated to 117 barrels daily. No lease in the producing area as now outlined is less than 40 acres, and to date operators have restricted drilling to one well to each 40-acre unit, although the majority of the operators prefer 660-foot spacing from property lines, one company has adhered to a center of 10-acre, or 330-foot

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SHREVEPORT, LOUISIANA

Lake Charles—Houma—Converse
Rodessa—Monroe—Kilgore
Greggton

spacing program. Adjoining property owners are matching this footage for drainage protection and to stave off protests from royalty interests.

Efforts waged by several operating units to have the field prorated on a basis of well potential and acreage as factors were resisted by the remainder. Hobbs field is prorated in this manner, and it has not proved satisfactory in the interest of conservation. Operators have aggravated the water situation by penetrating unreasonable depths into the porous lime pay as a means of building up potentials, while the excessive use of acid solution to bolster the potential rating of individual wells has not been in accord with conservation.

The Monument field recorded a gain on new locations the past week, having added six of the 17 new starts authorized for the county. The Eunice field contributed eight, including four on the joint properties of Continental Oil Company and The California Company, while the sandy-lime belt in the east portion of the county received three new tests.

Gulf Oil Corporation's C. H. Weir 1, C NE NE 35-19s-36e, north outpost for the original section of the Monument field, encountered bottom-hole water in drilling to 3975 feet, or 342 feet sub-sea. The well failed to flow natural when given initial production test, but responded to treatment with 3000 gallons of acid with a flow of 83 barrels oil and 5 barrels water through open tubing in 12 hours, then produced 153 barrels fluid, 6 percent water, in 24 hours. It will be plugged back and reacidized.

Minor extension for the east border of the Monument field was attained by Amerada Petroleum Corporation's State 1-K, C SE NW 29-19s-37e, from lime at 3945 feet, or 328 feet below sea level. The well flowed 7½ barrels per hour natural, and increased its yield to 410 barrels in 4 hours through open tubing after using 3000 gallons of acid. The gas-oil ratio was 560-1. This company is rigging up to drill State 1-O, C NW NE 30-19s-37e, and Harry Culp 1, located 330 feet out of the SWc SW SE 31-19s-37e. Shell Petroleum Corporation's J. A. Foster 1, C SE SE 34-19s-36e, is one location in advance of production on the west side of the field. Continental Oil Company is rigging up to drill State 1-C-30, C NE NW, and State 2-C-30, C NW NW 30-19s-37e. The latter and The California Company have installed rotary to drill J. L. Reed 3-A-3, C NE NE 3-20s-36e, a south offset to Shell Petroleum Corporation's new project on the west side.

In the Eunice field, Shell Petroleum Corporation and Devonian Oil Company are starting up on A. L. Christmas 1, C NE NE 21-22s-36e, situated on the south border of the producing area as now outlined. Continental Oil Company and The California Company made the following new locations: A. M. Lockhart 5-B-28, C NW NE 28-21s-36e; A. E. Meyer 4-A-18, C SW NE 18-21s-36e; Meyer 7-B-4, C NW SE 4-21s-36e; and Meyer 8-B-4, 1980 feet from east and 3300 feet from south lines of 4-21s-36e. Humble Oil & Refining Company has started operations on State 9-B, C NE SW 29-21s-36e, and Gulf Oil Corporation made location for State-East-Bell 2, C SW NW 15-21s-36e, and State-Arnott-Ramsey 6-C, C NE NW 21-21s-36e.

Getty Oil Company's State 1-C, C SE NE 16-21s-36e, ranks among the largest natural flowing wells in the Eunice area, having gauged 485 barrels oil per hour, flowing through 7-inch casing, from lime at 3797-3886 feet. The well was drilled to a sub-sea depth of 298 feet.

The South Eunice sandy-lime area gained two new tests the past week. Repollo Oil Company's Mary J. Boyd 1, SWc N½ 23-22s-37e, is one mile east by north of N. G. Penrose and Rowan-Nichols Oil Company's wildcat producer. Continental Oil Company and The California Company are starting work on E. M. Elliott 1-A-22, C SW SW 22-22s-37e, a south offset to the latter producer. Skelly Oil Company et al's Harrison 1, original strike for this area, has been completed after two months reconditioning work pumping an average of seven barrels of 37.8 gravity oil per hour, based on six-day gauge.

Liberty Oil & Drilling Company, a new entrant, has set up machine to drill John W. Hair-Repollo 1, C SW SE 24-24s-37e, an isolated wildcat situated due east of the Cooper field.

BOOST ALLOWABLE

New Mexico to produce 5000 more barrels

Hobbs, New Mexico.—Revised proration schedule governing crude production in New Mexico effective March 1 involved an increase of 5000 barrels in the state's daily yield. The production boost was authorized by the New Mexico Oil Conservation Commission to compensate the prolific areas in Lea County now bearing the brunt of production restrictions for new wells to be added, and also to provide more oil for new trunk lines being built into the county by Shell Pipe Line Corporation and Gulf Refining Company. Maximum allowable for the state was raised to 69,000 barrels daily, and projected increases will bring the total up to about 80,000 barrels daily by June 1.

The commission assigned 4881 barrels of the production increase to the Lea County fields served by trunk lines operated by West Texas carriers. The remainder of the enlarged quota is distributed among fields in San Juan County and in the Artesia district, Eddy County and including the Maljamar field in western Lea County.

Maximum production for the state recommended by the United States Bureau of Mines during March was fixed at 64,200 barrels daily, as compared to 61,300 barrels for the February period.

Production in the Hobbs field was boosted 1720 barrels daily, making a top allowable of 27,904 barrels daily for the March 1-15 period. Other Lea County areas are prorated on a flat allowable per well basis, which was increased from 110 barrels to 117 barrels daily. Proration does not apply to wells in these miscellaneous areas if maximum production is less than the authorized flat allowable.

New Mexico is rapidly strengthening its position as the sixth largest producing state due to aggressive development work underway in the Monument and Eunice fields.

Proration allowable assigned each of the producing areas in eastern Lea County by the New Mexico Oil Conservation Commission for the March 1-15, 1936, period.

	Hobbs	Eunice	Monument	Jal Dist.	Cooper	Lea	North Lea	South Eunice	Total Bbls.
Amerada Pet. Corp.	2,040	234	1,404	40	585	...	..	...	4,303
Anderson-Prichard Prod. Corp.	.....	.....	117	75	....	...	..	...	192
Atlantic Oil Prod. Co.	210	1,755	....	....	117	...	..	...	2,082
Barnsdall Oil Co.	.....	.....	351	50	....	...	..	...	401
Byrd-Frost, Inc.	.....	.....	....	351	....	...	..	...	351
California Co.	515	468	....	....	....	...	..	...	983
Continental Oil Co.	1,762	944	117	....	....	...	..	...	2,823
Conoco-California Co.	405	4,070	117	827	1,287	...	..	...	6,706
Crafton Oil Co.	.....	.....	....	....	35	...	..	...	35
Devonian Oil Co.	.....	234	....	....	....	...	..	...	234
Empire Gas and Fuel Co.	1,144	849	....	329	468	...	19	...	2,809
General Crude Oil Co.	.....	.....	....	25	....	284	..	...	309
General Crude-Magnolia	.....	.....	....	....	611	...	..	...	611
Getty Oil Co.	616	351	....	....	....	...	..	...	967
E. B. Guess, et al.	.....	.....	....	117	....	...	..	...	117
Gulf Oil Corp.	3,015	2,340	702	124	419	...	..	...	6,600
J. G. Hammond, Inc.	.....	.....	....	100	....	...	..	...	100
Humble Oil and Ref. Co.	1,732	1,170	....	160	1,195	...	..	...	4,257
Landreth Prod. Corp.	313	.....	....	....	....	...	..	...	313
Magnolia Pet. Co.	59	.....	....	50	....	...	..	...	109
Mid-Continent Pet. Corp.	58	.....	....	....	....	...	..	...	58
Jim Murray, et al.	.....	117	....	....	....	...	..	...	117
Ohio Oil Co.	1,151	411	....	....	....	...	..	...	1,562
Oil Well Drl. Co.	197	.....	....	....	....	...	..	...	197
R. Olson-Uscan Oil Co.	.....	234	....	....	....	...	..	...	234
N.G. Penrose-Rowan-Nichols	.....	.....	....	....	....	...	..	117	117
Peerless Oil and Gas Co.	.....	18	....	....	....	...	..	...	18
Phillips Pet. Co.	.....	.....	234	....	....	...	..	...	234
Phillips Pet.-Pure Oil Co.	.....	.....	....	30	1,912	...	..	...	1,942
Repollo Oil Co.	690	936	234	585	117	...	..	...	2,562
Republic Prod. Co.	.....	.....	234	....	....	...	..	...	234
J. M. Rush, et al.	.....	.....	....	50	....	...	..	...	50
Samedan Oil Corp.	1,694	.....	....	....	....	...	..	...	1,694
Shell Pet. Corp.	3,986	488	468	....	....	...	..	...	4,942
Shell-Devonian Oil Co.	.....	468	....	....	....	...	..	...	468
Skelly Oil Co.	639	936	234	50	468	...	..	187	2,514
Southern Pet. Explo. Co.	.....	.....	....	242	....	...	..	...	242
Stanolind Oil and Gas Co.	4,855	.....	....	351	720	...	..	...	5,926
Sun Oil Co.	.....	182	441	....	....	...	..	...	623
Superior Oil Co. (Cal.)	.....	.....	468	....	....	...	..	...	468
The Texas Co.	1,049	234	585	292	675	878	32	...	3,745
Texas-Pacific Coal and Oil Co.	490	117	....	....	72	...	..	...	679
Tide Water Oil Co.	748	1,053	....	40	234	...	..	...	2,075
Twin States Oil Co.	442	.....	....	....	....	...	..	...	442
Walker Oil Corp.	94	.....	....	....	....	...	..	...	94
Total	27,904	17,609	5,706	3,888	8,915	1,162	51	304	65,255

Eastern Colorado

TESTS PLANNED BY BIG COMPANIES DURING YEAR

ROCKY MOUNTAIN FIELDS

WEEKLY STAFF REPORT

Denver, Colo.—Eastern Colorado will be the scene of at least four to five tests this next year to all indications from the large amount of acreage under lease in that part of the state. There were 12 geophysical crews working through eastern Colorado during the past summer and the major companies were active taking leases. It is estimated by Russell H. Volk, Denver geologist in an article in the recent special oil edition of the Mines Magazine that the major companies hold 3,019,000 acres of prospective oil land under lease in the central part of the eastern portion of the state.

Stanley Brittal, Inc., has material on location in Cheyenne County, for a deep test to the Pennsylvanian sand, on a block of acreage near Cheyenne Wells.

Indian Territory Illuminating Company holds a block of 23,000 acres covering the Beecher Island structure, a large anticline located in Township 2s, Ranges 43 and 44w, with a 1000-foot closure. A few shallow gas wells have been drilled in the Beecher Island area. It is expected that the company will drill a test to the Pennsylvanian series on this structure, in Yuma County, across the Kansas line from Cheyenne County.

In Kansas westernmost production was developed by the Atlantic Oil Producing Company in Vaniman 1, CSE NE 15-20s-33e, Scott County, on the southeastern rim of the Western Kansas Basin and about 100 miles southeast of Beecher Island. Vaniman 1, made 572 barrels initial from 4686 feet, where hole bottomed when drilled in a year ago.

It is reported that Continental Oil Company will drill on its block of acreage in the Cottonwood district, Powers County, Townships 21 and 22s, ranges 44 and 45w. The company has a solid block of 18,000 acres in this district. Other companies who have acreage in the district also are The Texas Company, Magnolia Petroleum Company, The California Company, Gulf Oil Corporation, Indian Territory Illuminating Oil Company.

Largest amount of acreage in eastern Colorado is held by Gulf Oil Corporation, with a total of 1,297,000 acres. The company obtained 900,000 acres of this from the Union Pacific railroad in the largest acreage deal made in the Rocky Mountain region. Mineral rights of all the Union Pacific land of odd numbered sections 20 miles to each side of the railroad right-of-way, from the Colorado-Kansas line to Limon, Colorado, were leased last year by Gypsy Oil Company (Gulf).

Other companies holding acreage in the territory is estimated as follows: The Texas Company, 460,000; Magnolia Petroleum Company, 180,000; Continental Oil Company, 98,000; Carter Oil Company, 80,000; Ramsey Petroleum Company, 71,000; Ohio Oil Company, 42,000; Sierre Grand Oil Company, 38,000; Plains Exploration Company, 34,000; California Company 32,000; Stanolind Oil & Gas Company, 16,000; and other companies and independents, 500,000 acres.

The recent extensive leasing in Colorado is greatly due to the change made in leasing regulations by the state land board which allows the lessees to take a solid block. State leases carry a 12½ percent royalty. Terms of the lease were raised to 10 years with no drilling requirements, but with a 25 cents per acre annual rental for the first five years and 50 cents minimum rental for the second five years.

MOUNTAIN STATES Completions

MONTANA

Company, Well and Location	Init. Prod. Bbls.	Depth
GLACIER COUNTY (Cut Bank Field)—		
Neil Spencer, Tweedy 1, cse sw 25-33n-6w	150	3015

NEW MEXICO

EDDY COUNTY (Jackson Field)—		
Etz Bros., State 1, se sw 16-17-30e	130	3320
SAN JUAN COUNTY (Rattlesnake)—		
Continental Rattlesnake 50, csw ne 2-29n-19w	70	735
LEA COUNTY (Eunice Field)—		
Conoco & California Co., Meyer 1-B-4, c se sw 4-21s-36e	384	3900
Getty Oil Co., State 1-C, c se ne 16-21s-36e	11,500	3886
Gulf, State-North-Bell 2, c ne se 6-21s-36e	187	3885
Skelly, State 6-B, c se nw 16-21s-36e	850	3910
LEA COUNTY (South Eunice Pool)—		
Skelly, Simms 1, c sw ne 4-23s-37e	150	3687
Skelly et al, B. F. Harrison 1, c nw sw 5-23s-37e	224	3796
LEA COUNTY (Monument Field)—		
Amerada, State 1-K, c se nw 29-19s-37e	2600	3945
Conoco & California Co., H. M. Britt 1-A-6, c sw sw 6-20s-37e	2500	3895

*Failures; †Junked; ¶Million cu. ft. gas.

MONTANA

Cut Bank, Mont.—A warm wind started a revival of drilling activities in the Cut Bank field, Glacier County, northern Montana, this week as one small producer completed and a new location was staked. Sub-zero weather in the field had caused most of the wells to be shut in.

Montana Power Gas Company completed Whetstone 2, SW NE 8-33n-5w, pumping 10 to 15 barrels oil daily at 2865 feet.

The Texas Company announced a

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new location, Marie Jones 1, center NW SW 6-33n-5w, close to producers northeast of the new well.

After shot with nitroglycerine in Jack Marshall's Tribal 1, Lot 7, 7-32n-5w, the test failed to show oil in productive quantity. It showed good oil saturation in the Sunburst sand at 2845 feet before the shot. It will be drilled to the Sundance sand at 2915 feet.

West Dome Oil Company is drilling at 836 feet in 1, SW SE NE 9-15n-29e, in the Cat Creek field, Garfield County, southern Montana.

Daniels Petroleum Company's May 1, CSE SE 13-1s-33e, in the Hardin gas field, Big Horn County, southern Montana, is drilling at 3048 feet.

WYOMING

Warmer weather greatly revives drilling activity

Casper, Wyo.—Wyoming oil fields show the best activity in several weeks as warmer weather permits operators to renew drilling campaign. Three wells are at near completion stages. Four wells headed for the Sundance sand are started in the Lance Creek field, Niobrara County, of eastern Wyoming.

Argo Oil Company released location for Elliott 7, CNE SW 5-35n-65w, in Lance Creek, and is rigging up. The company's recent start, Elliott 6, CSE SW 5-35n-65w, cemented 15½-inch surface casing at 160 feet, and is drilling at 166 feet.

A new start staked by Ohio Oil Company this week in the Lance Creek field, was Agnes Rohloff 3, SW SE NE 32-36n-65w. Ohio Oil Company's Converse Sheep Company 5, CSE SW 32-36n-65w, is waiting on cement to set around the 12½-inch surface string at 220 feet.

Ohio Oil Company's Harrison-Cooper 3, NWc S 35-20n-78w, in the Rock River field, Carbon County, south central Wyoming, swabbed 400 barrels in the first 12 hours from the Sundance sand at 3156-3228 feet. The well is rigging up to go on the pump. Harrison-Cooper 3 is an old well deepened from 2808 feet where it completed in 1920 in the Dakota formation for 1400 barrrels initial. The company's Harrison-Cooper 8, SW SW 35-20n-78w, in the same field, is drilling at 3186 feet after cleaning up fishing job at 3030 feet.

Another well nearing completion of Ohio Oil Company is on Big Medicine Bow Dome, Carbon County. Union Pacific 1 Account 1, NE SW SW 24-21n-79w, is preparing to run 5 3/16-inch liner to complete in the First Sundance sand logged at 5259-5300 feet and in the Second Sundance which is logged at 5381-5470 feet.

In the Dutton Basin field, Carbon County, cold weather delayed resumption of drilling in Sidney H. Keoughan and Union Oil Company's deep test to the Sundance, Union Pacific 1, 1800 feet west of the east line and 1320 feet south of the north line of 1-18n-78w.

The California Company's Holst 3, NW SW SE 13-17n-77w, on Quealy Dome, Albany County, is drilling at 2728 feet.

New Ventura Field

MOUNTAIN VIEW GETS ACTIVE; DEEP KETTLEMAN TEST WET

WEEKLY STAFF REPORT

Los Angeles.—Continental Oil Company's completion of Hobson 1, Section 15-3-24, to be known hereafter as the Javon field, has proven the existence of a new structure in Ventura County. Located two miles inland to the east of the Rincon tideland field, it is expected that the producing area will be comparatively small. Continental Oil Company's holdings amount to about 800 acres, with Chanslor-Canfield Midway Oil Company and General Petroleum Corporation holding substantial protection acreage. The development program will be an orderly one, due to the closely held acreage and nothing in the way of the spectacular in the drilling or producing of this field is anticipated.

Hobson 1, located 1806 feet north and 1118 feet east of SEc Section 15-3-24, was drilled to 5501 feet with 6⅝-inch casing cemented at 5415 feet. On an open-hole production test, the well gauged 400 barrels a day, 30.0 gravity, 10.8 percent cut. It was later killed and 110 feet of 4¾-inch liner, including 86 feet of perforations, was landed at 5501 feet. The well was returned to production and officially completed for 478 barrels a day, 30.1 gravity, 2.7 percent cut, 150 pounds on the tubing, 830 pounds casing pressure, through 32/64-inch bean.

At Elwood, Santa Barbara County, Barnsdall Oil Company-Rio Grande Oil Company's Bell 12, deep test, is coring at 7441 feet, with 5¾-inch casing cemented at 6725 feet. Minor showings of oil and gas are being cored. The same companies' Bell 1, discovery well of this field, completed July 26, 1928, at 3208 feet, for an initial output of 2500 barrels a day, is preparing to deepen for a test of the lower formations. Initial completion of this well was a forerunner of a wildcat drilling campaign which resulted in the discovery of three coastal fields, the Elwood tideland, Santa Barbara Mesa and Erburu fields.

Mountain View Extension

Presaging a new drilling program, a southern extension of the Mountain View field now appears a certainty with the recent success encountered in the drilling of Hogan Petroleum Company's Peters 1. This test is located in NE Section 5-31-29 and its completion will justify the theory of a productive area beyond the present known limits, long held as probable by operators of this field. Peters 1 is bottomed at 6048 feet in oil sand, having penetrated oil sand in both the Chanac (Lower Pliocene) and Santa Margarita (Miocene) horizons. The top showings were cored at 5680 feet and the underlying Santa Margarita formation was encountered at 5960 feet. Preparations are being made to cement a string of 9⅝-inch casing at 5765 feet, which will enable the operator to produce both zones. These two sands are prolific producers of oil in older sections of the field. Negative results in tests drilled to the south and east of the present activity will intensify future drilling in a southwest trend from the present limits of the field.

Already, competitive drilling has appeared in this important area. An immediate offset to the west of Hogan Petroleum Company's Peters 1, is North American Oil Consolidated's Peters 1, Section 5-31-29, now coring oil sand at 5775 feet, having just picked up the Chanac at 5770 feet. This zone has been encountered 100 feet higher than expected and augurs well for a successful completion of this venture.

North of these two key tests Shell Oil Company is offsetting each in Section 32-30-29.

A continuance of the major Mountain View structure in this virgin territory probably will be comparatively narrow, with the ultimate length yet to be determined. A successful completion of Hogan Petroleum Company's Peters 1 will open up the strip for pioneer development, as many ten-

CALIFORNIA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
KETTLEMAN HILLS—		
Kettleman N. D. Assn., No. 6-28J	1415	8156
BUENA VISTA LAKE—		
Ohio, R. C. L. A-5	¶3	5243
MIDWAY-SUNSET—		
C. C. M. O., W. P. 3	215	2275
MARICOPA—		
Richfield, No. 11	250	2480
MOUNTAIN VIEW—		
Standard, Nichols Com. 1	330	5945
ROUND MOUNTAIN—		
Barnsdall, Caldwell 2	400	1825
Calif. Western Oil Co., No. 7-15	500	1516
SANTA BARBARA MESA—		
Fred Cole No. 10	110	2056
RINCON—		
Honolulu Oil Corp.'s No. 3, Permit 56	445	2985
DOMINGUEZ—		
Shell, Reyes 71	610	4465

*Failures; †Junked; ¶Million cu. ft. gas.

tative locations are awaiting final results before spudding in.

North Belridge

Gibson 7, deep test of Union Oil Company in Section 36-27-20, North Belridge field, has been drilled to 9492 feet, with 7-inch casing cemented at 8565 feet. On a recent production test, swabbing operations through 2-inch tubing hung at 8654 feet, demonstrated a high percentage of water as being present in the lower portion of the hole. Corrective steps have been taken to exclude this water entrance and the well is standing plugged to 9265 feet.

Maricopa Flats, located in the southern limits of the San Joaquin Valley, is to get special attention within the coming few weeks. R. W. Jerman & Company will drill a deep test of the Maricopa shales (Miocene) in Section 32-12-22. Production is being obtained from depths ranging from 2000 to 4500 feet. The Maricopa shales of the upper Miocene formation offer possibilities much lower than the present producing horizon.

Lillis-Welch Flows Salt Water

Union Oil Company's Lillis-Welch 1, Section 24-21-16, exploratory venture of the North Dome field of Kettleman Hills, obtained a flowing salt water well, as a result of a swabbing test conducted last week. It was drilled originally to 11,147 feet with 6⅝-inch casing cemented at 10,813 feet. The lower portion of the hole, on test, offered little encouragement in the way of commercial production, resulting in the well being plugged to 10,760 feet. The casing was perforated in the hole from 10,757 to 10,547 feet and a test of the formations at these depths proved discouraging. The well is standing plugged at 10,694 feet and plans for further testing are indefinite.

Kettleman North Dome Association completed 6-28J in Kettleman Hills for 816 barrels a day, 37.7 gravity, 0.8 percent cut. Production is flowing through a 34/64-inch bean, with 680 pounds flow pressure, 960 pounds casing pressure, along with 2,800,000 cubic feet of gas.

Torrance Deeper Drilling

The Torrance field, Los Angeles County, is experiencing a period of drilling activity, unusual in that it occurs in one of the older settled fields of this territory. The urge of developing deeper production, coupled with encouraging indications of the Torrance structure, is the incentive for this current activity. A strong belief that production can be found in the deep igneous rock beds, unconformably underlying the Miocene section of sediments, is held in high regard by students of sub-surface conditions in this region. Such is the case in the nearby Venice-Del Rey field, and a possible duplication of this unconformity is not without substantial support. The productive horizon is expected to be encountered at about 7000 feet.

Three projects are in the early stages of testing the basement conglomerates for commercial production.

General Petroleum Corporation's Carson 2, located in Section 8-4-14, in the northwesterly end of the field, is rigging up rotary equipment preparatory to deepening to the schist.

Shell Oil Company has taken over Pioneer Holding Company's Pioneer 1, a wildcat test north of the Torrance field, in Section 33-3-14, which was originally drilled to 4418 feet. The hole has been surveyed and a 9⅝-inch conductor string of casing is now being run. Actual deepening will start this week.

Chanslor-Canfield Midway Oil Company's Del Amo 23, in the central part of the field, is drilling at 4200 feet in shale. Of the three present tests, this one should be the first to tell the story.

Record Consumption

Los Angeles.—Total taxable gasoline sales in California in January was 116,721,981 gallons, a record for any January in past history of the state. This total compares to 101,098,364 gallons in January last year, 87,538,354 gallons in the first month of 1934 and 90,884,805 gallons in January, 1933. Standard Oil Company of California led with a total taxable gallonage of 22,905,885, while Shell Oil Company was second with 14,914,176 gallons. Union Oil Company was third with 12,211,941 gallons, and General Petroleum Corporation was fourth with 11,093,950 gallons. Associated Oil Company reported 9,968,578 gallons, and Richfield Oil Company was sixth with 7,166,819 gallons. The Texas Company reported 5,914,802 gallons.

Every Field—Practically Every Prospect

COMPLETE data available, in briefed form, on every producing oil and gas field of the Texas-Louisiana Gulf Coast, plus similar data on every known prospect, will be found in the Gulf Coast Engineering and Development issue of THE OIL WEEKLY, to be published March 16.

This is the third Gulf Coast issue to be published by THE OIL WEEKLY and each past issue has been considered as the most authoritative presentation published.

On proven fields the data includes discovery data, depth of well, briefed history of the field, including acreage proven to date and total production to date, gravity of the oil, oil outlet, estimated ultimate recovery, present daily production, and principal operators.

On prospects, the data includes such geological information as may be important, method of discovery, location, extent of development, and principal operators.

More than 150 new prospects—never shown in a Gulf Coast issue before, will be found added. A total of more than 350 fields and prospects will be covered in detail.

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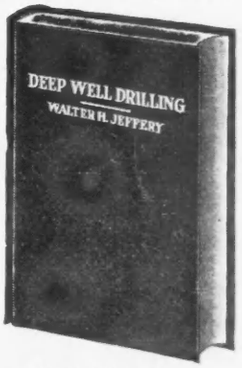

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MICHIGAN

WEEKLY STAFF REPORT

Mt. Pleasant, Mich.—With the first signs of a winter breakup this week came predictions from various quarters of the industry of a record year in oil and gas exploration for Michigan. The opinions are based largely on the current high demand for crude oil, five or more promising areas in the state where one or more commercial or near-commercial oil tests were drilled late in 1935, construction of a new 10-inch gas main from Mecosta-Montcalm to Lansing, probability of a Mecosta-Montcalm to Grand Rapids gas line, and a new flat 15 cents per thousand cubic feet price at the well head for gas in the Mecosta-Montcalm field, representing a three to six-cent increase.

Road conditions are seriously retarding development with only about 50 percent of the rigs active in the state. The areas certain to get a play in the spring include the Beaverton district, already proven but little developed; Bay County, Saginaw County, Tuscola County, Geneva area of Midland County and Vickeryville district of Montcalm County.

Completion of the new Michigan-Toledo pipe line by Simrall Pipe Line Corporation, and Standard Oil Company of Ohio opens the Toledo market to from 10,000 to 15,000 barrels of crude daily, not possible before. Pure Oil Transportation Company, now purchasing around 16,000 barrels daily, would increase 50 percent if production was available. Of the 23 operating refineries in the state less than 25 percent have sufficient connections to adequately meet their daily charging stock demand.

If crude is developed at least six more refining plants ranging in capacity from 500 to 3000 barrels daily will be constructed according to pending deals.

Michigan marketed only five billion feet of natural gas in 1935 of which about 50 percent was wet or casing head gas. The new Lansing line will increase this market about 3½ billion feet annually and if the Grand Rapids line is built it will add another three to four billion feet yearly.

Producers Refining, Inc., newly organized company, has started construction of a 500-barrel skimming plant at West Branch, Michigan, which will operate on crude from the Ogemaw County field.

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MICHIGAN

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
GLADWIN COUNTY—		
M. F. Whitehill, Dell 2, 17n-2w, ne sw sw-2	115	3870
IONIA COUNTY—		
Associated Pet. Co., Retensdorf 1, 7n-8w, se se se-8	*	2835
ISABELLA COUNTY—		
T. T. Hawksworth, State 1, 15n-3w, se nw sw-34	50	3625
E. Schelling, Mitchell 1, 15n-3w, nw sw se-34	75	3640
MECOSTA COUNTY—		
Fletcher & Leyman, Taylor 2, 13n-7w, c nw se-30	¶24.5	1330
MIDLAND COUNTY—		
Pure Oil Co., Yost B-6, 14n-2w, se se-34	50	3438
Root 1, 13n-2w, nw sw-2	245	3447
MONTCALM COUNTY—		
D. F. Jones, Wilson 2, 12n-7w, c ne ne-9	¶30	1299
Ottlan Oil Co., West 1, 10n-5w, nw nw nw-20	*	3230
Gordon Oil Co., Strait 8, 10n-5w, nw ne nw-3	50	3203
Geo. Hanner, Palmer 1, 11n-5w, sw nw nw-22	*	lcn.
King Drilling Co., Ferris Sch. 1, 11n-5w, se se se-28	*	lcn.
Burnstein Oil Co., Keel 6, 11n-5w, ne se se-35	1100	3200
Old Dutch Oil Co., Hansen 1, 10n-7w, se sw ne-21	*	3275
OGEMAW COUNTY—		
United Drillers, Schwalm 1, 22n-2e, se se ne-19	50	2720

*Failures; †Junked; ¶Million cu. ft. gas.

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EASTERN STATES

EASTERN FIELDS

WEEKLY STAFF REPORT

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
OHIO		
MEDINA COUNTY—		
Edson & Son, Miller 54	10	500
Miller 55	8	461
Miller 56	11	486
Franks 42	12	....
Franks 43	12	473
Wideman 8	5	539
Pittsford & Co., Gillman Bros. 21	20	498
LICKING COUNTY—		
George P. Long, Varner 3	35	2939
Pure Oil Co., Wright 4	25	3000
KNOX COUNTY—		
Kenova Gas Co., Elliott 1	*	....
Upham Gas Co., Gann 1	¶	2907
CLAY COUNTY—		
Elk River Gas Co., Keith 1	¶	2095
JACKSON COUNTY—		
Hanley Bros., Procter 1	¶	4115
HOLMES COUNTY—		
Ohio Fuel Gas Co., Martin 1	¶	3329
SENECA COUNTY—		
William McPharon & Co., Fox 5	*	1496
Harpster & Co., Weber 3	¶	495
TUSCARAWAS COUNTY—		
Columbia Carbon Co., Scharr 1	¶	5053
NOBLE COUNTY—		
Hall & Co., Miller 1	¶	1480
MONROE COUNTY—		
Jackson & Griffith, Fee 1	10	1530
John Lumbatis, Robinson 1	2	1263
FAIRFIELD COUNTY—		
Bishop & Patton, Schaffer 1	*	2055
COSHOCTON COUNTY—		
Pure Oil Co., Clark 1	30	3224
HARRISON COUNTY—		
Pfeiffer & Co., Green 1	¶	872
GUERNSEY COUNTY—		
Geo. W. Lanhan & Co., Mullen 1	10	3601
WASHINGTON COUNTY—		
Harry Binegar, Moore 6	¶	1947
BELMONT COUNTY—		
A. J. West & Co., West 1	¶	....
WEST VIRGINIA		
KANAWHA COUNTY—		
Columbia Carbon Co., Hoge 1	¶	4980
PLEASANTS COUNTY—		
Richville Oil & Gas Co., Matheney 1	2	1906
ROANE COUNTY—		
Harry Anderson, Roberts 1	*	1699
WETZEL COUNTY—		
Maxon Oil & Gas Co., Huffman 2	30	2171
WOOD COUNTY—		
Wamsley Oil & Gas Co., Wamsley 2	2	1651
KNOX COUNTY—		
Upham Gas Co., Myrlitta 1	¶	2907
ILLINOIS		
BOONE COUNTY—		
Owens Illinois Gas Co., Estep 1	¶	1751
Pryor 19	¶	....
Ballard 3	¶	1997
Peytonia 24	¶	....

*Failures; †Junked; ¶Million cu. ft. gas.

ILLINOIS GEOLOGY

"Stratigraphic and structural studies of the outcropping of Pennsylvanian strata have revealed the presence of closed structures in eastern Marion and Western Clay Counties, Illinois."

This statement is contained in the summary of conclusions in a recent publication of the State Geological Survey at Urbana in the form of a bulletin by J. Marvin Weller and Alfred H. Bell titled "Geology and Oil and Gas Possibilities of Parts of Marion and Clay Counties."

THE OIL WEEKLY REPORT ON IMPORTANT *Wildcat Tests*

ALABAMA

FRANKLIN COUNTY — McAlpine et al's Hobson et al 1, 26-8s-14w, co 2589 ft.

HOUSTON COUNTY — Rice O&G Co.'s Oakley Est. 2, 9-3n-29e, spd arr set surf csg td 100 ft.

LAMAR COUNTY — DeSoto O&G Co.'s Gardner 1, nw nw 22-15s-16w, pb to perf csg at 3118-35 ft, old td 4900 ft, lime.

ARKANSAS

ASHLEY COUNTY — Seaboard Oil Co.'s Fee 2, nw ne 28-17-4, spd cemtd 10-in 600 ft, dr 910 ft.

CALHOUN COUNTY—Ben Barnett's Freeman Smith 1, se nw sw 36-15-14, dk.

CRAWFORD COUNTY — Trumbo et al's Craddock 1, c nw ne 3-11-30, rur.

COLUMBIA COUNTY — Southern States Gas Co.'s Pine Woods Lbr. Co. 1, ne nw 10-20-22, arr deepen 1904 ft.

HEMPSTEAD COUNTY—Dixie Drlg. Co.'s Vada Wheatley 1, nw sw ne 14-11-26, sd for surf csg. Geo. L. Glass' May B. O'Brien 1, ne sw 32-12s-23w, rur. May & Easton's Conway 1, ne sw 20-12s-27w, 12½ in csg 80 ft. F. W. Martin's Lafferty 2, se nw 17-14-24, sd for csg 1985 ft.

LA FAYETTE COUNTY—Erwin & Leach's Bodcaw Lbr. Co. 3, nw nw 20-16-23, elev 250 ft 13⅜ in csg 330 ft, fsg dr pipe, td 4150 ft. Joe Modisett et al's Frost Lbr. Co. 1, 29-19-24, elev 261 ft, 9⅝ in csg 1960 ft, arr deepen td 2661 ft. Transportation Pet. Co.'s Cochran 1, ne se 25-19-25, arr deepen 3468 ft.

MILLER COUNTY—Odell Hinson's Montana Realty Co. 1, ne nw nw 3-17-28, rur. J. W. Jones et al's Bush 1, ne ne 2-19-27, mim. C. V. Lenz's Dale 6, 24-16-26, rur.

OUACHITA COUNTY—Griggsby & Aarnes' Burris 1, sw nw ne 19-15-19, elev 244 ft, sd 3820 ft, red shale. Phillips Pet. Co.'s J. D. Reynolds 1, se nw 27-15-15, 13⅜ in csg 619 ft, top red beds 2800 ft, sr td 3120 ft. W. B. Street's Rath & Cartier 1, sw sw ne 33-13-18, elev 378 ft, 7-in csg 1398 ft, top Blossom (Ozan) 1991 ft, cored sw sand 1991-97 ft, sd 1997 ft.

SEVIER COUNTY—Pendleton & Vaughan's Dierks Lbr. Co. 1, nw ne 14-10-29, fresh water flow, abn. td 950 ft.

UNION COUNTY—J. C. Buckbee, Tr.'s Ezzell 1, ne nw 13-17-15, spd 10-in csg 400 ft, wocs. F. C. Henderson's Sheppard 1, ne nw 35-17-15, elev 195 ft, top Nacatosh 2120 ft, tested 75 ft fluid and 200,000 cu ft gas, si, td 2192 ft.

CALIFORNIA

FRESNO COUNTY

MONOCLINE RIDGE — Seaboard Oil Corp.'s Lillis-Welch 1, 30-16-14, dr sand and shale 2574 ft.

COALINGA—Jas. M. Conlon Co.'s No. 1, 30-19-15, td 771 ft, wocs 8⅝ in at 585 ft.

KERN COUNTY

BELRIDGE—Albert Beck's Beck-Bacon 1, 35-28-20, sd 1652 ft.

COMANCHE POINT—Shell Oil Co.'s Bank One 4, 15-32-29, sd 5394 ft. Tejon Ridge Oil Co.'s No. 1, 23-32-29, sd 2182 ft, bad roads.

DEVIL'S DEN—Cumberland Oil Co.'s Mabry 2, 17-26-18, sd 4461 ft.

EDISON—Navy Oil Co.'s Caravel 1, 19-30-30, td 1447 ft, pumping water, trace oil.

FRUITVALE—Mullane & Hall's Truesdell 1, 14-29-27, sd 3804 ft.

GRAPEVINE—Reserve Oil & Gas Co.'s No. 1, 33-11-19, td 6030 ft, preparing to redr. Silver Gate Co.'s Tejon 1, 7-10-19, td 2985 ft, co at 2300 ft.

LOST HILLS—Standard Oil Co.'s United 1, 2-26-20, dr hard sandy shale 6154 ft.

McFARLAND—Woods & Bailey's No. 1, 16-26-26, sd 3100 ft.

McKITTRICK—Belmac Dr. Co.'s Douglas 1, 22-29-21, td 4800 ft, fsh.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*
‡—*salt water (completions).*
†—*junked and abandoned.*
¶—*million feet of gas.*
abd—*abandoned.*
bbls—*barrels.*
br—*building rig.*
b.s.—*basic sediment.*
csg—*casing.*
co—*cleaning out.*
dd—*drilling deeper.*
dk—*derrick.*
dr—*drilling.*
fsg.—*fishing.*
ft—*feet.*
hfw—*hole full of water.*
in—*inches.*
lcn—*location.*
m—*milling.*
mim—*moving in materials.*
mit—*moving in tools.*
mot—*milling on tools.*
n, s, e, w—*north, south, east, west.*
oih—*oil in hole.*
owdd—*old well drilling deeper.*
owpb—*old well plugging back.*
pb—*plugged back or plugging back.*
r—*reaming.*
rog—*rig on the ground.*
rur—*rigging up rotary tools.*
rust—*rigging up standard tools.*
sd—*shut down.*
sdtr—*sidetracking.*
sg—*show gas.*
si—*shut in.*
so—*show oil.*
so & g—*show oil and gas.*
spd—*spudding.*
sr—*straight reaming.*
sw—*salt water.*
td—*total depth.*
ur—*underreaming.*
wih—*water in the hole.*
wo—*workover.*
wocs—*waiting on cement to set.*
wosr—*waiting on standard rig.*

McVAN—Tom Bailes' No. 1, 11-27-27, rig. S. D. Brown's No. 1, 22-27-27, grade.

MOUNT POSO—Stabeck & Gardner's Glide 1, 31-27-28, sd 750 ft.

MOUNTAIN VIEW—Standard Oil Co.'s Garcia 1, 13-30-28, dr brown shale 5409 ft, top of Santa Margarita at 4195 ft. Treasure Oil Co.'s No. 1, 12-30-28, rur.

NORTH MOUNT POSO—H. Mann's No. 2, 27-26-28, td 1400 ft, tested wet. Trying to locate water. Santa Carla Oil Co.'s Glide 1, 7-26-28, sd 900 ft.

STRAND—Ohio Oil Co.'s No. D-1, 1-30-25, dr sand and shale 2110 ft.

SOUTH BUTTONWILLOW—General Pet. Corp.'s No. 1, 5-30-24, td 5818 ft, fsh dr pipe.

STEVENS—Shell Oil Co.'s K. C. L. 1, 29-30-26, dr shale 5560 ft.

WHEELER RIDGE—Reserve Oil & Gas Co.'s Tejon 5, 2-10-19, sd 2580 ft, cored oil sand 2480 to 2540 ft.

MISCELLANEOUS

HUMBOLDT COUNTY—The Texas Co.'s Eureka 2, 22-3-1, spud February 22, dr.

KINGS COUNTY—Associated Oil Co.'s Avenal 1, 35-23-17, lcn. Royalty Service Corp.'s No. 1, 16-24-18, dr hard shale streaks sand 2865 ft. Standard Oil Co.'s Tulare Farms 1, 34-24-23, dr blue shale 3217 ft. Commonwealth Cons. Gas Co.'s No. 2, 21-22-20, sd 2460 ft. Hancock-Union's Giannini 1, 28-22-20, sd 2913 ft, bad roads. Kettleman View Oil & Gas Co.'s No. 1, 9-22-19, dr sand and shale 1500 ft.

MERCED COUNTY—J. R. Murrell's No. 1, 8-10-9, dr sand and shale 1574 ft.

SAN JOAQUIN COUNTY—Amerada Pet. Corp.'s F. D. L. 5, 15-2-5, dr sand 2774 ft.

SAN LUIS OPISPO COUNTY—Pismo Pet. Co.'s Scott 1, 5-32-13, rig. J. C. Theriot's Holland 1, 22-32-22, td 1840 ft, co at 1800 ft. Willett Oil Assn.'s Jack 2, 10-25-15, sd 3647 ft. Geo. Moss' Paso Robles 1, 27-26-13, rig. United Oil Co.'s No. 1, 2-32-21, preparing to spud. Birch-Royer Oil Co.'s Patchell 1, 33-31-13, dr hard brown shale 1624 ft.

TEHAMA COUNTY—Northern Counties Pet. Co.'s Ewers-Mooney 1, 25-24-3, dr hard sandy shale 6715 ft.

TULARE COUNTY—Kenwood Pet. Corp.'s Kenwood 1, 14-24-27, sd 1595 ft.

MONTEREY COUNTY—Shell Oil Co.'s Branch 1, 34-24-10, td 7332 ft, wocs 7-in at 7250 ft.

SANTA BARBARA COUNTY

CARPENTERIA—Santa Barbara Oil & Gas Co.'s Bryce 1, 29-4-25, dr sand and shale 2284 ft.

LOMPOC—M. J. Freeman's LaBrea 1, 11-7-33, sd 1450 ft. Lompoc Pet. Co.'s Beauterbough 1, 18-7-34, sd 3940 ft.

NORTH MESA—Humphries et al's Edna May 1, 20-4-27, sd 1425 ft, to drop from report.

ORELLA—Williams & Brown's No. 1, 34-5-31, rig.

POINT CONCEPTION—Union Oil Co.'s Sudden 1, 10-5-35, rig.

SANTA MARIA—Union Oil Co.'s Adam 1, 24-10-34, rur.

SUMMERLAND—Marmonte Oil Co.'s No. 1, 16-4-26, sd 1600 ft.

VENTURA COUNTY

BARDSDALE—Bestco Pet. Co.'s Frey 1, 2-3-19, rur. Duke Oil Corp.'s No. 1, 7-3-19, td 2000 ft, swabbed water and oil, sanded up. El Rancho Oil Co.'s Elkins 1, 9-3-19, dr sand showing oil 3374 ft. Laing & Jacobs' No. 1, sd 1225 ft.

OJAI—Continental Oil Co.'s Pirie 2, 12-4-23, td 1017 ft, on pump, oil and water.

OXNARD—General Pet. Corp.'s McGrath 2, 26-2-23, dr sand and shale 848 ft.

PADRE CANYON—Continental Oil Co.'s Hobson 1, 15-3-24, td 5501 ft, 6⅝-in at 5415 ft, swabbed 263 bbls 29.8 gravity oil, cut 36.4 percent in 12 hours, cut clearing up.

PIRU—Bolsa Chica Oil Corp.'s Snow 3, 4-4-18, td 645 ft, co.

SANTA PAULA—High Mesa Oil Co.'s Butcher 1, 16-4-22, sd 650 ft.

SHIELLS CANYON—The Texas Co.'s Shiells 129, 4-3-19, td 3042 ft, running 11¾-in casing.

SIMI—Dawson Oil Co.'s No. 1, 8-2-17, dr sand and shale 2510 ft. Jas. S. Hull's No. 1, 2-2-18, sd 1490 ft. Paloma Oil Co.'s Paloma Marr 1, 12-2-18, sd 2806 ft.

SOUTH MOUNTAIN—Calco Pet. Corp.'s Calco 3, 17-3-20, td 1320 ft, co.

TORREY CANYON—A. N. Macrate's Torrey 1, 32-4-18, sd 4093 ft.

VENTURA—Ventura Explor. Co.'s Sexton 1, 30-3-22, sd 7068 ft.

SOUTHERN CALIFORNIA

ARTESIA—Engler & Long's Millard 1, 25-3-12, td 5888 ft, plug 5130 ft, co to try to locate water.

CARBON CANYON—Tehama Pet. Corp.'s Kramer 1, 33-2-8, td 3053 ft, plug 1450 ft, rep road.

DOMINGUEZ—West American Oil Co.'s Del Amo 1, 3-4-13, dr gray sand 6550 ft.

EL SEGUNDO—L. J. Marvin's Woods 1, 7-2-14, td 6364 ft, ran formation tester, to deepen.

HUNTINGTON BEACH—20th Century Oil Co.'s Calnan 1, 36-5-11, td 5160 ft, picked up fair oil sand 4450 to 4500 ft, to set 6⅝-in at 4450 ft.

KRAEMER—Leaseholders Dev. Co.'s Vejar 1, 26-3-9, sd 4110 ft. Standard Oil Co.'s Yorba Com. 1, 36-3-9, td 2714 ft, plug 2656 ft, testing water shutoff.

LAWNDALE—Sovereign Oil Corp.'s Ben Long 1, 22-3-14, td 8760 ft, co to 4900 ft, trying to get back into old hole.

NEWHALL—Yant Pet. Corp.'s No. 5, 1-5-16, dr shale 1696 ft; No. 6, setting boilers.

NEWPORT—Commander Oil Co.'s Mesa 1, 29-6-10, dr 850 ft, carrying 8¼-in.

NORTH LONG BEACH—Geo. L. Clayton's No. 1, 31-3-12, td 6765 ft, perforated 4660-4740 ft, blowing mud and water.

PICO CANYON—N. M. Fraser's No. 1, 31-4-16, sd 955 ft.

PLACENTIA—Placentia Dev. Co.'s Verde 1, 35-3-9, td 4250 ft, to deepen.

PUENTE—Chas. R. Butler's Butler 1, 14-2-10, dr shale showing oil 3411 ft.

TOPANGA CANYON—Monarch Pet. Co.'s Sylvia Park 1, 5-1-16, td 650 ft, co.

TORRANCE—Eyer Pet. Corp.'s No. 1, 20-4-13, td 3794 ft, oil sand at 3611 ft, reaming to set 8⅝-in. Oliver McDowell's No. 1, 35-3-14, sd 4633 ft. Shell Oil Co.'s McKenna 1, 33-3-14 (was Pioneer Holding Co.), td 4418 ft, running 9⅝-in conductor string.

VENICE—Del Rey-Eastern Oil Co.'s No. 1, 22-2-15, dr shale 5391 ft.

WEST LONG BEACH—Shell Oil Co.'s Amebco 1, 13-4-13, td 6035 ft, fsh dr pipe.

WESTMINSTER—Hillman-Long's Westminster 1, 14-5-11, spud February 23, dr.

YORBA LINDA—Continental Oil Co.'s Carlton Com. 1, 21-3-9, dr hard sand 2705 ft.

RIVERSIDE COUNTY—Albert Pet. Co.'s Watt 2, 23-7-3, td 2787 ft, plug at 2125 ft. Fred E. Stevens' Everett 1, 27-3-7, ready to spud.

SAN BERNARDINO COUNTY—Equitable Pet. Explor. Co.'s No. 1, 11-10-5, td 1999 ft, set 8⅝-in on bottom and perforated, tested wet, to deepen.

COLORADO

ADAMS COUNTY—Hills Dome Oil Lease Hills 1, esl se se 27-3s-64w, sd 4134 ft.

ARCHULETA COUNTY—Wm. E. Hughes Estate Fee 4, se nw ne 24-33n-2e, dr 600 ft. Wm. E. Hughes Estate Fee 5, se nw se 24-33n-2e, spd 100 ft. K. L. Kindrick Crowley 1, sec 2-32n-1e, td 710 ft. Pulled csg to straight ream. Oil City Petroleum Co. & Archuleta Oil & Gas Co., Reeder 1, swc lot 5, 24-33n-2e, spd 40 ft.

LARIMER COUNTY—California Co. 1, se sw ne 6-11n-69w, abnd in Inglesile formation at 3242 ft.

MORGAN COUNTY—Swisher et al Lunt 1, sw sw sw 3-5n-60w, old td 1300 ft, dr new hole at 1223 ft and carrying 4¾ in csg at 1144 ft.

PARK COUNTY—South Park Oil Co. State 1, se se sw 16-11s-17w, dr 3860 ft and carrying 6¼ in csg.

PROWERS COUNTY—Trojan Oil & Gas Co. Lotus 1, nw ne ne 15-23s-46w, sd and repairing rig.

FLORIDA

JACKSON COUNTY—Mrs. Mamie Hammonds et al's Grandberry 1, sw ne 15-5n-9w, wocs surf csg.

LAKE COUNTY—Oil Dev. Co. of Fla.'s Gulf Expl. Co. 1, se se 17-24s-25e, dr 2696 ft, lime & shale. Union Oil & Ref. Co.'s Gulf Expl. Co. 1, se sw 17-24s-25e, 15½-in csg 65 ft.

KANSAS

BARTON COUNTY—Torrey & Feaster et al's Kempler 1, se ne ne 31-18s-11w, td 3468 ft, pb 3462 ft, 1000 gals acid, no test. Morgan & Flynn et al's Amerine 1, ne ne ne 14-19s-14w, dr 2850 ft. Morgan & Flynn et al's Zimmer 1, se se sw 30-19s-14w, dr 1935 ft. Buchanan & Alexander's Langford 1, ne ne sw 14-20s-11w, sd 2030 ft. Hilligoss et al's Schmidt 1, ne ne ne 27-19s-11w, dr 1700 ft. Simpson, Noble & Atlantic's Hiss 1, cnw ne 31-20s-13w, br. Hinkle's Smith 1, sw nw nw 1-17s-11w, dr 380 ft. Merriam's Soeken 1, sw sw se 21-17s-11w, rig.

COWLEY COUNTY—Aylward, Trees Oil Co. et al's Shields 1, sw sw sw 17-32s-6e, td 3414 ft, D&A. Roth & Farout's Sherwood 1, ne nw sw 11-31s-4e, td 3037 ft, shot 40 quarts, co. Penwest's Clover 1, ne se se 8-31s-7e, sd 2825 ft. Murphin et al's Houston 1, nw nw sw 10-31s-4e, td 3002 ft, D&A. Shawver et al's Wilson 1, ne se ne 11-30s-4e, dr 1150 ft. Roth & Farout's Guthrie 1, se ne nw 30-33s-8e, ur 10-in csg 1300 ft. Morton et al's Roger 1, se se ne 1-31s-4e, dr 2825 ft. Mead Bros. et al's Orr 1, se se sw 23-31s-4e, ru mach. Shawver & Wilt's Baruth 1, sw nw ne 8-34s-3e, co 2130 ft. Craft et al's Taylor 1, ne se nw 32-32s-3e, rig. Mickelson et al's Wallace 1, sw se se 10-33s-4e, mim. Craft et al's Whitson 1, ne ne ne 20-33s-4e, spd and sd.

ELLIS COUNTY—Blackwell O&G et al's Solomon 1, se se sw 28-11s-19w, lcn. Twin Drlg. Co.'s Reidel 1, sw sw ne 27-13s-16w, rig.

ELLSWORTH COUNTY — Smith-Ash & Phillips Pet. Co.'s Splitter 1, sw sw sw 19-17s-9w, dr 2040 ft. Skiles et al's Kafka 1, ne ne sw 15-17s-8w, ru.

HARPER COUNTY — Marathon Oil Co.'s Zellers 1, csw nw 17-35s-8w, fsg 5009 ft.

HARVEY COUNTY — Empire O&R Co.'s Webster 1, se se sw 8-24s-2w, dr 2450 ft. Harburney Oil Co.'s Scrag 1, nw nw se 24-22s-3w, dr 1425 ft. Western Kansas O&R Co.'s Warkentin 1, csw sw 1-23s-2w, dr 1500 ft.

MARION COUNTY—Milton et al's Young 1, nw nw se 17-21s-3e, dr 1485 ft.

McPHERSON COUNTY—Ok-Tex et al's Moehlinger 1, se sw sw 21-21s-2w, rur.

NORTON COUNTY—Lario O&G & Elwell's Kennedy 1, sw sw nw 22-3s-23w, ur 8-in csg 3375 ft.

PRATT COUNTY—Lario, Elwell & Atlantic's Lemon 1, se se nw 12-29s-13w, dr 4543 ft.

RENO COUNTY—Derby Oil Co.'s Schrock 1, se se sw 27-24s-5w, perf csg 3420-3430 ft, 2 bbls oil per hr. McPherson Drlg. Co. et al's Miller 1, se se ne 23-24s-5w, rig. Helmerich & Payne's Schwaiger 1, sw se ne 27-26s-5w, br.

RICE COUNTY—Skiles et al's Edwards 1, nw nw ne 3-18s-6w, td 3283 ft, pumped 550 bbls oil 20 hrs. Vernon O&G Co. & Cusco Oil Co.'s Boldt 1, nw sw nw 10-19s-10w, ur 6-in csg 2909 ft. Gratton et al's Williams 1, sw sw nw 17-18s-7w, dr 1530 ft. Continental & Empire's Nickel 1, ne sw sw 13-18s-8w, dr 3167 ft. Aylward et al's Oberle 1, se se sw 19-18s-10w, rig.

ROOKS COUNTY—Gillespie & Son's Low 1, ne ne nw 12-6s-18w, 2000 ft oih, pumped 6 bbls per hr, 4000 gals acid, no test. Murfin et al's Wasthusin 1, ne ne se 12-6s-18w, sd 990 ft. Pryor & Lockhart's Bradley 1, sw sw ne 31-10s-16w, ur 8-in csg 3060 ft. Skaer Oil Corp. & Reese's Dryden 1, ne ne ne 28-10s-17w, mim.

RUSH COUNTY—Pryor & Lockhart's Stagman 1, sw nw ne 11-16s-17w, lcn. Keith et al's Dartmouth Savings Bank 1, sw sw ne 3-17s-18w, rotary rig.

RUSSELL COUNTY—Coraleana Oil Co.'s Diskon 1, se se se 30-15s-13w, fsg 3000 ft. Warren Pet. Co.'s Bratton 1, se se se 25-11s-13w, td 3390 ft, D&A. Sam Murphy et al's Enochutz 1, sw sw sw 10-15s-13w, dr 2840 ft. Hartman & Blair's Boxberger 1, nw nw sw 32-13s-14w, td 3220 ft, treated with acid, pumped 192 bbls oil 1¼ hrs. Empire et al's Major 1, se se se 11-14s-12w, dr 1350 ft. Bridgeport Mach. Co. & Lauck's Wyckoff 1, se nw ne 27-11s-13w, dr 1710 ft. Chas. Newbold's Krug 1, se sw se 4-15s-14w, dr 650 ft. Hartman & Blair's Boxberger "B" 1, ne se sw 5-14s-14w, dr 2595 ft. Hartman & Blair's Johnston 1, nw nw nw 11-13s-14w, lcn. Berry et al's Cook 1, ne ne se 19-11s-13w, dr 300 ft. Eisenhour & Shaffer's Humes 1, sw sw sw 6-14s-12w, dr 250 ft.

SEDGWICK COUNTY—T. C. Johnson's Jensen 1, sw sw nw 11-28s-2e, dr 1160 ft.

STAFFORD COUNTY—Farris et al's Snyder 1, se se nw 3-21s-11w, dr 2300 ft. Kessler & Their's Evens 1, ne ne ne 30-21s-11w, rur.

SUMNER COUNTY—Morgan et al's Veail 1, se sw ne 27-32s-2e, dr 2897 ft. Helmerich & Payne et al's Elwell 1, nw nw ne 18-34s-1e, br.

TREGO COUNTY—Vickers Pet. Co. et al's Secor 1, nw nw nw 25-15s-24w, td 4340 ft, ¼ bbl oil per hr. Continental Oil Co.'s Holcomb 1, ne se nw 26-11s-23w, spd.

WOODSON COUNTY—Morgan et al's Vermont Savings Bank 1, ne nw ne 15-25s-14e, sd 1610 ft. Sheedy et al's Warner 2, sw sw sw 21-25s-14w, td 1500 ft, pb 1460 ft, wocs. Sheedy et al's Grand Lodge 1, ce¼ nw sw 4-25s-14e, ru mach.

SOUTH LOUISIANA

ACADIA PARISH—Superior's G. Bradley 1, Bayou Mallet, sec 51-7s-1e, woc 1274 ft.

CALCASIEU PARISH—A. G. Oliphant's Calcasieu National Bank 1, Nibbletts Bluff prospect, sec 23-10s-12w, dr shale 5164 ft. Union Sulphur's Prairie Farms 2, South Lake Charles prospect, sec 2-11s-9w, dr water sand 9250 ft, top sand 9244 ft.

CAMERON PARISH — Magnolia's Miama Cooperation 1, Willow Lake prospect, sec 32-12s-8w, dr shale 7717 ft.

EVANGELINE PARISH—Basile Oil Co.'s Hirsh 1, North Basile prospect, sec 14-6s-2w, abd 8438 ft.

IBERIA PARISH—Jefferson Lake Oil Co.'s Lake Pegneur 274, Jefferson Island dome, 12s-5e, preparing to perforate csg 8446 to 8468 ft. The Texas Co.'s State Lake Fausse Point 1, s flank of dome, dr shale 5816 ft.

JEFFERSON DAVIS PARISH — J. K. Lewis's Lock Moore 1, Lock Moore prospect, sec 32-7s-6w, no report. Shell's Lacassine 1, Hayes prospect, sec 20-11s-5w, dr shale 9721 ft.

PLAQUEMINES PARISH—Southern Sulphur Co.'s Manhatten Fruit 1, Venice dome, sec 28-21s-30e, dr shale 3510 ft.

ST. JAMES PARISH — Shell's Colonial Sugar 1, Convent prospect, sec 5-12s-5e, dr shale 4631 ft.

ST. MARTIN PARISH — Texas Co.'s St. Martin Land Co. 8, Henderson prospect, sec 9-8s-7e, dr sticky shale 6302 ft.

TERREBONNE PARISH — Shell's Realty Co. 1, Houma Townsite prospect, sec 103-17s-17e, dr shale 10,076 ft.

VERNON PARISH—Llano Cooperative Oil Corp.'s Llano 1, sec 7-1n-9w, sd 2950 ft.

WEST FELICIANA PARISH—Robert L. Morris et al's Percy 1, sec 89-1s-4w, woc 124 ft.

NORTH LOUISIANA

BIENVILLE PARISH—Gulf Oil Corp.'s W. T. Thiasher 1, sw sw 13-15n-7w, dry abnd, td 2700 ft. Lide & Greer's Davis Lbr. Co. 1, ne se 12-16n-5w, elev 305 ft, top Arkadelphia 2287 ft, chalk 2501-2831 ft, top Blossom 3070 ft, top red beds 4080 ft, top stringer anhydrite 5180 ft, Massive anhydrite 5396-5636 ft, dr 5660 ft shale and lime. Rondeau et al's Locke 1, nw ne 9-15n-10w, lcn. Texas-Seaboard Oil Co.'s McGee 1, sw ne 3-16n-6w, elev 217 ft, top Arkadelphia 2025 ft, chalk 2236-2570 ft, top Blossom 2795 ft, top red beds 3820 ft, top stringer anhydrite 4950 ft, massive anhydrite 5240-5454 ft, base anhydrite stringer 5562 ft, sw abn, td 5905 ft.

BOSSIER PARISH—Humphreys et al (formerly carried L. R. Baker et al), Bulkley 1, ne sw 36-21n-13w, cored bro sand and shale (3.5 ft bro sand), claim so, arr core again, td 2108 ft. Producers O&G Co.'s E. C. Edwards 1, se sw 27-18n-11w, dry abn, td 3200 ft. United Gas Pub. Serv. Co.'s Murff A-1, 17-17n-11w, spd dr 2710 ft.

CADDO PARISH — Pyramid Oil Co.'s Wheeler A-1, 16-18n-16w, dr 2853 ft shale.

CLAIBORNE PARISH—Wm. C. McGlothlin's Brinker 1, sw se 10-23n-4w, 10-in csg 280 ft, elev 232 ft, top Nacatosh 2150 ft, dr 3130 ft, shale, cut core 3130-40 ft. E. T. Oakes et al's Patton Est. 1, ne ne 1-20n-5w, drill pipe hung, td 4238 ft oolitic lime. Ryan Oil Corp.'s Gladney 1, ne sw 27-20n-7w, elev 343 ft anhydrite 4485-4960 ft, tested sw 5140-52 ft, swab, td 5172 ft. Sugar Creek Synd.'s Darrett 2, 31-21n-5w, sdtr, td 5660 ft sandy lime; Kilpatrick 1, sw ne 7-19n-5w, wodd, td 4558 ft.

DE SOTO PARISH—Alexander et al's Stell 1, 5-12n-16w, elev 245.6 ft, top stringer anhydrite 4960 ft, base last anhydrite 5187 ft, cored 5 ft quartz sand 5433-43 ft, coring 5498 ft. V. T. Bolin et al's McMichael 1, nw se 26-13n-15w, dk and mir. R. C. Payne et al's Harris 1, 11-13n-14w, spd.

JACKSON PARISH—Caldwell L&T Co.'s Burroughs 1, ne nw 1-17n-1w, wocs surf casg. G. W. Zeigen's La. Cent. Lbr. Co. 4, 25-14n-2w mim. La. Cent. Lbr. Co. 5, 13-14n-2w, mim.

LINCOLN PARISH — Ark-La. Gas Co.'s Causey 1, nw ne nw 32-19n-2w, spd dr 278 ft, gumbo. Caldwell L&T Co.'s Hammonds 1, nw ne nw 30-18n-1w, wocs 15¼ in csg 100 ft. Lide & Greer's S. Gardner 1, 10-17n-4w, elev 268 ft, 10-in csg 2386 ft, top red beds 3810 ft, top anhydrite 4589 ft, dr 4676 ft shale.

MOREHOUSE PARISH—Henry E. Rondeau et al's Clark 1, sec 10-20n-7e, dk and mir.

RAPIDES PARISH—Amerada Pet. Corp.'s Beasley 1, nw nw 52-1n-2e, dr 2792 ft shale. Texas Eagle Oil Corp.'s (formerly carried Foster Oil Co.), Hogan 1, 2-1n-2e, dr 634 ft shale. Texas Co.'s Weil 1, 52-1n-2e, rur.

RICHLAND PARISH — J. F. Morrissey's Jones 1, 15-18n-7w, fsg 1010 ft. Arthur H. Wray's Slocum 1, 10-17n-6e, dr 1000 ft.

SABINE PARISH—A. H. Tarver's Baker 2, 36-8n-12w, top marl 2205 ft, dr 4090 ft.

UNION PARISH—Lent, Sears & Bocher's Frost Lbr. Co. 1, nec 27-21n-1e, elev 198.3 ft, wocs 10-in csg 881 ft.

WEBSTER PARISH—J. P. Evans' Crichton 1, 35-18n-9w, rur. L. R. Skidmore's Barnett 1, 29-17n-9w, rur. Ohio Oil Co.'s R. L. Holloway 6, ne sw 23-21n-10w, 15¾ in csg 360 ft, coring 5902 ft lime; Coyle 1, s½ se 23-21n-10w, lcn. (5500 ft test).

MICHIGAN

ALCONA COUNTY — Thalman & Morris' Kohlman 1, 26n-7e-10, sd 2540 ft. Joseph Langloh's Kurrasch 1, 27n-8e-10, lcn.

ALPENA COUNTY—C. W. Teater's Nevins 1, 32n-6e-18, sd 60 ft.

CLINTON COUNTY—Stork Oil Co.'s Bross 1, 8n-2w-29, mi.

CHIPPEWA COUNTY—F. D. Barton's Kretan 1, 41n-7e-17, sd 150 ft.

CLARE COUNTY—Fred Seig's Fee 1, 17n-5w-26, rig.

EATON COUNTY — Burris and Keeler's Moon 1, 2n-4w-11, sp.

GRATIOT COUNTY—Miller Brother's Ryan 1, 9n-1w-22, sd 2370 ft. Bila Oil Corp.'s Ryan 1, 10n-2w-32, sd 894 ft. Harley William's Smith 1, 9n-2w-29, sd 800 ft. Mountain Oil & Gas Co.'s Walters 1, 11n-2w-17, sd 1290 ft.

GRAND TRAVERSE COUNTY—M. J. Ingold's Miller 1, 26n-11w-23, sd 1380 ft.

HURON COUNTY—Wallace Markle's Opaka 1, 15n-11e-4, sd 2700 ft.

IONIA COUNTY—Wittmer Oil Co.'s Kimball 1, 7n-5w-15, sd 2550 ft.

ISABELLA COUNTY—McClanahan-White's Hafner 1, 16n-3w-22, csg 6-in 1503 ft.

KENT COUNTY—Rex Oil Co.'s Johnson 1, 10n-1w-36, sd 1200 ft. James Barton's Smith 1, 10n-10w-29, fsg 800 ft. Michigan Exploration Co.'s Croff 1, 7n-9w, ne sw nw-35, mim.

LAPEER COUNTY—Co-op Oil Co.'s Hartrick 1, 8n-9e-13, sd 2655 ft.

LAKE COUNTY—C. W. Teater's McCabe 1, 20n-12w-26, sd 830 ft. Frank Lyon's Alderton 1, 17n-13w-33, sd 3100 ft.

LENAWEE COUNTY — Socony-Vacuum's McCarberry 1, 5s-5e-36, csg 5-in collapsed, pulling, td 2600 ft, so & g. P. D. Snavelye's Lindsay 1, 7s-3e-6, sd 200 ft. Mott and Denman's Huffman 1, 6s-3e-26, sd 150 ft.

MASON COUNTY—Dragoon Dev.'s Young 1, 17n-15w-15, sd 2550 ft. Max Prey's Barothy 1, 17n-15w-29, dr 2570 ft. Northern Oil Co.'s Burke 1, 17n-15w-26, sd 75 ft.

MANISTEE COUNTY—Bolema and Rademaker's Sands Lake Co. 1, 21n-15w, sec 8, dr 400 ft.

MONROE COUNTY—A. V. Oil Co.'s Roe 1, 6s-6e-19, dr 1300 ft.

MONTCALM COUNTY—John F. Martin's Christensen 1, 10n-6w, se se nw-20, lcn. Old Dutch Oil Co.'s Russell 1, 10n-6w, sw sw sw-29, lcn; Hansen 1, 10n-7w-21, sd 3250 ft. Rowmor Oil Co.'s Tow 1, 10n-6w, nw nw ne-36, lcn. Jetter Oil Co.'s McCracken 1, 9n-5w-6, rig. Star Petroleum Co.'s Ward 1, 9n-5w-20, sd 400 ft.

SAGINAW COUNTY—Chas. Bell's Wegner 1, 11n-2e-10, dr 300 ft. St. Louis Pipe and Supply Co.'s Yadovack 1, 10n-2e-13, dr 1300 ft. Mid State Dev.'s Burlson 1, 10n-5e-21, rig. Pure Oil Co.'s Blumer 1, 12n-1e-10, dr 3350 ft. Henry McEvoy's Jenacki 1, 12n-2w-31, dr 1300 ft.

MISSISSIPPI

HARRISON COUNTY—Big Ridge Oil Co.'s Hingen 1, se se 13-7s-10w, no report.

JONES COUNTY—Snow Black Pet. Co.'s Fox 2, 31-7n-12w, spd & sd.

LAMAR COUNTY—Snow-Black Pet. Co.'s Miller et al 1, ne ne sw 3-4n-15w, spd, setting 15-in surf csg.

WARREN COUNTY—Harry W. Elliott's R. L. Parker 3, 14-14n-1e, 6-in csg 2941 ft, bailed down 2000 ft, no show, sd 3140 ft.

WASHINGTON COUNTY — Mid-Continent Dev. Co.'s Lee 1, 33-15n-8w, arr deepen, td 2996 ft shale.

MONTANA

FERGUS COUNTY—Emmons et al 1, csw se 20-21n-18e, dr 511 ft. Fenholt et al 1, se nw sw 24-21n-17e, dr 132 ft.

JUDITH BASIN COUNTY—Fletcher P. Hunt Hobson 3, nw se ne 30-14n-15e, dr 358 ft.

TETON COUNTY—Teton Oil Co., Recikoff 1, cne sw 14-24n-5w, abnd 2430 ft, hole full of water.

NEW MEXICO

BERNALLILO COUNTY—Norins Realty Co., North Albuquerque Acres 2, cnw nw 19-11n-4e, dr 1100 ft.

CHAVES COUNTY—Tannehill et al Campbell 3, cne se 1-11s-25e, fsg 750 ft.

EDDY COUNTY—T. J. Haley et al Rose 1, cne ne 28-24s-27e, shot with 100 qts at 2313-43 ft, hole filled with water.

GUADALUPE COUNTY—Anton Chico Development Co., Fee 2, nw ne 20-9n-17e, straight reaming to set more 12¼ in csg at 350 ft.

McKINLEY COUNTY—Red Mountain Oil & Gas Co., Red Mountain 1, cne sw 21-20n-9w, rig on lcn. Montrose Oil & Gas Co., State 1, cne ne ne 28-20n-9w, dr 570 ft and pg. Lark Drilling Co. Santa Fe R. R. Land 2, ne ne 29-20n-9w, dr 425 ft.

TORRENCE COUNTY—48 Petroleum Co., Greenfield 1, cnw sw 17-9-8, dr 1410 ft.

UNION COUNTY—Quaker State Oil Co., Zurich 1, cn sw sw 2-21s-34e, dr 200 ft.

LEA COUNTY—Amerada's State 1-K, c se nw 29-19s-37e, east edge Monument area, elev 3617 ft, base salt 2440 ft, used 3000 gals acid in lime 3818-3945 ft, complete flowing 410 bbls oil 4 hrs through 2½-in tubing, with 1,350,000 ft gas. Barnsdall Oil Co. et al's D. C. Hardy 1, c se ne 29-21s-37e, elev 3470 ft, base salt 2420 ft, trace gas 3387 ft, dr 3460 ft. Culbertson-Irwin & Roy Stovall's J. B. Humphrey-Humble 1, c se sw 3-25s-37e, dr 500 ft; John R. Stewart-Repollo 1, c sw se 10-25s-37e, sd repairs, td 1100 ft Crafton Oil Co.-Amon G. Carter's M. A. Hair-Humble 1, c sw nw 11-24s-37e, elev 3231 ft, top anhydrite 990 ft, top salt 1220 to 2455 ft, shot 140 qts nitro in sandy lime 3545-3760 ft, co and est 30 bbl pumper. Gulf Oil Corp.'s Annie L. Christmas 1, c se se 27-22s-36e, elev 3521 ft, so&g 3675-95 ft and 3775 ft, so&g on dst 3670-3821 ft, no results on 3 dst attempts at 3821-3950 ft, td 4010 ft, run tubing to test; H. C. Collins 1, c se nw 14-21s-36e, elev 3568 ft, top gas pay 3030 ft, gas blow out 3055 ft, mixing mud to kill gas flow. Harry Leonard et al's B. T. Lanehart-Humble 1, c sw ne 21-25s-37e, elev 3079 ft, top anhydrite 965 ft, dr 1540 ft. Liberty Oil & Drlg. Co.'s J. F. Hair-Repollo 1, c sw se 24-24s-37e, machine. Maljamar O&G Corp.'s M. E. Baish 6, c nw se 21-17s-32e, Maljamar area, elev 4028 ft, est 10 bbls oil daily 2358-65 ft, dr 2485 ft. Ohio Oil Co.'s State-Elliott 1, c nw se 30-19s-37e, elev 3621 ft, cem 9-in cas 2450 ft. Oil Well Drlg. Co.-Southern Pet. Exploration, Inc.'s State 1-A, c sw ne 29-19s-37e, rig. Plains Production Co.'s R. L. Mosley 1, c nw se 34-23s-37e, dr 690 ft; Geo. Smith-Humble 1, c se se 4-25s-37e, dr 465 ft. Repollo Oil Co.'s J. H. Williams 1, nec 33-19s-37e, east Monument area, elev 3587 ft, base salt 2530 ft, rust at 3800 ft, td 4158 ft, used 2000 gals acid, swabbed 45 bbls oil and 10 bbls w in 5 hrs, then showed mostly water, sd to reacidize; M. J. Boyd 1, sw sw nw 23-22s-37e, rig; Annie L. Christmas 1, nec ne 28-22s-37e, dr 300 ft. Samedan Oil Corp.'s C. U. Parks 1, swc s½ 14-22s-37e, lcn. Skelly Oil Co.'s J. U. Baker 1, c se sw 22-22s-37e, elev 3348 ft, dr 3475 ft; B. L. King 1, c sw se 32-22s-37e, elev 3369 ft, td 3590 ft, rust; A. L. King 1, c se nw 4-23s-37e, elev 3331 ft, dr 3030 ft; Hugh O. Simms 1, c sw ne 4-23s-37e, elev 3323 ft, shot 370 qts nitro 3474-3677 ft, td 3687 ft, completed, flows 70 bbls oil daily on 25/64-in choke; R. R. Simms 1, c se se 4-23s-37e, elev 3306 ft, testing at 3625 ft, flows by heads; Edgar L. Steeler 1, c nw ne 17-23s-37e, elev 3333 ft, pb fr sul w in lime 3800-10 ft to 3783 ft, used 2000 gals acid and swabbed 15 bbls oil, 60 bbls w, pb to 3765 ft and shot 330 qts nitro 3491-3748 ft, est 6 to 7 million ft gas, but dropped to 2,800,000 ft gas daily, pb to 3758 ft, testing. Skelly et al's B. F. Harrison 1, c nw sw 5-23s-37e, elev 3352 ft, top anhydrite 1190 ft, top salt 1290 ft, pb fr sul w in lime 3796 ft to 3762 ft, shot 870 qts 3491-3754 ft, pumped 224 bbls oil 24 hrs complete. Warren L. Todd, Inc. et al's Lemon 1, c nw se 17-21s-32e, elev — ft, top anhydrite 990 ft, dr 3335 ft. Sam K. Vierson & Brown's W. D. Robinson 1, c nw se 14-11s-32e, elev 4355 ft, top anhydrite 1490 ft, top salt 1506 to 2079 ft, top brown lime 3465 ft, cem 7-in cas 3680 ft, top Glorietta lime 4728 ft, dry and abnd 5026 ft (corrected).

OKLAHOMA

ALFALFA COUNTY—Tex-O-Kan's Acre 1, csw ne 14-24n-11w, sd 7325 ft.

ATOKA COUNTY—Vierson et al's Williams 1, ne sw nw 34-2s-10e, dr 3835 ft.

BEAVER COUNTY—Anderson-Kerr et al's Davis 1, csw se 36-5n-26, ECM, dr cement.

BECKHAM COUNTY—Wood Pet. & Royalty Corp.'s Blair 1, nw nw se 32-9n-26w, dr 2060 ft.

BRYAN COUNTY—Wayne Kine's Kimball 1, ce½ ne nw 36-9s-9e, dr 347 ft.

CADDO COUNTY — Denver P&R Co.'s Sah-Cam 1, cse se 33-10n-10w, sd 10,012 ft, to dd.

CARTER COUNTY—Carter Oil Co.'s Humble-Williams 1, sw ne sw 27-2s-3w, td 7540 ft. Southern States Oil Co.'s Moore 1, ne se nw 30-4s-1w, dr 926 ft. Schermerhorn Oil Co.'s Floyd Clowdus 1, nw nw ne 2-4s-2w, td 1019 ft, pumped 6 bbls oil, comp. Carter Oil Co. et al's Leon Voorhees 1, cse sw 34-5s-2w, cellar and pits.

COAL COUNTY—Shell Pet. Corp.'s Hill 3, se se nw 30-3n-10e, dr 4190 ft.

COMANCHE COUNTY—George Pace et al's Spencer 1, sw sw sw 21-3n-10w, sd 1813 ft. McCasland et al's Smith 1-A, sw sw sw 12-2n-10w, dr 1526 ft.

GARFIELD COUNTY—Sherry et al's Hoken 1, nw nw sw 32-20n-4w, sd 4860 ft. Stanolind-Amerada's Brunken 1, sw sw ne 32-23n-4w, dr 1200 ft. Herndon Drlg. Co. et al's Branson Community 1, sw sw se 23-24n-3w, dr 3070 ft.

GARVIN COUNTY—Suggett & McElreath's Hyre 1, ne ne se 23-3n-1w, sd 4113 ft.

GRANT COUNTY—Southern Oil Co. et al's Allen 1, sw sw se 36-26n-4w, sd 5505 ft.

HARMON COUNTY—Lioalko Trust, Ltd.'s Crasnoe 1, se se sw 14-3n-25w, lcn.

HUGHES COUNTY—Schumacher et al's Schumacher 1, ne nw ne 23-5n-10e, dr 1760 ft. Halsey's Estep 1, nw nw sw 11-8n-9e, td 3454 ft, pb 3412 ft. Canavan's Meadors 1, ne se sw 5-8n-10e, td 3196 ft, pb 3146 ft, wocs. Phillips Pet. Co.'s Eberle 1, ne ne sw 12-5n-9e, rur. Fitzpatrick et al's Cotton 1, se se ne 13-8n-8e, br.

JACKSON COUNTY—Universal Oil Co.'s Briscoe 1, nw sw ne 36-1s-20w, sd 1530 ft. Jackman's Fee 1, sw sw sw 27-1s-24w, dr 1855 ft.

JEFFERSON COUNTY—Sinclair Prairie's Barrett 1, nw nw nw 31-5s-6w, dr 3378 ft. Campbell's Trout 1, se ne ne 6-8s-7e, fsg 1314 ft. George Pace's Gardner 1, sw sw sw 23-5s-5w, dr 1400 ft. Heydrick's Peoples National Bank 1, sw sw sw 26-6s-5w, lcn.

KAY COUNTY — Black Gold Pet. Co.'s Cooley 1, ne nw sw 25-28n-4e, dr 1220 ft.

KIOWA COUNTY—Burns & Moore's Webster 1, cne ne 2-6n-17w, fsg 458 ft. Shaffer et al's Slusher 1, nw sw nw 35-7n-17w, dr 1050 ft. Adams et al's Stone 2-A, se se ne 34-7n-17w, sd 1190 ft.

LE FLORE COUNTY—McGraw et al's Tidwell 1, cnw se 17-3n-22e, sd 1555 ft.

LINCOLN COUNTY — Stanolind-Amerada's Crawford 1, ne ne se 35-15n-2e, td 5243 ft, pb 5150 ft, no show. Fred McDuff's Jacob 1, ne ne se 10-15n-5e, coring 3421 ft.

LOGAN COUNTY — Stanolind-Amerada & Eason's Gragg 1, sw sw ne 20-18n-4w, fsg 5991 ft.

LOVE COUNTY—Sinclair Prairie's Stockton 1, se se sw 26-6s-2w, dr 6626 ft. Russell et al's Scott 1, sw se sw 29-8s-2e, dr 3538 ft. Amerada-Stanolind's Westheimer 1, sw se sw 27-6s-2e, dr 6485 ft.

MARSHALL COUNTY—Smith's Chestnut 1, ne ne ne 23-8s-5e, sd 390 ft. Elmir-Gill's Lidecker 1, se se nw 7-8s-6w, td 580 ft, D&A.

McCLAIN COUNTY — Arab Pet. Corp.'s Autry 1, nw nw nw 16-7n-3w, dr 7660 ft.

McINTOSH COUNTY—I.T.I.O. Co.'s Toncred 1, sw sw ne 9-9n-14e, td 3617 ft.

OKFUSKEE COUNTY—Manahan & Grisso's Dalton 1, se se se 36-10n-8e, td 1740 ft, flowed 203 bbls oil 9 hrs, co.

OKLAHOMA COUNTY—Sinclair Prairie's Corbett 1, ne nw ne 17-13n-3w, td 6542 ft, to run tubing. Sinclair Prairie's Heavey 1, ne ne nw 17-13n-3w, td 6970 ft.

PAYNE COUNTY—Pierce's Kiheag 1, sw sw sw 7-17n-1e, dr 3915 ft. Denver Prod. et al's Pratt 1, nw nw nw 20-18n-3e, rig.

PONTOTOC COUNTY—Gulf Oil Corp.'s Emry 1, sw sw ne 15-2n-6e, cored 6295 to 6299 ft. Mid-Texas Pet. Co.'s Harbet 1, sw sw se 30-5n-4e, dr 1458 ft. Patsy Oil Co.'s Magnusom 1, sw se se 23-2n-7e, sd 4376 ft.

ROGER MILLS COUNTY — Anderson & Kerr et al's Teeter 1, cse se 2-17n-25w, sd 6503 ft.

SEMINOLE COUNTY—Felmlee & Nichaelson's Belford 1, se nw ne 15-9n-8e, sd 1680 ft. Wood Oil & Dirickson's Ellis 1, nw ne ne 36-9n-5e, dr 3695 ft. Amerada et al's Community Stout 1, ne ne sw 3-10n-5e, spd. Imperial Drlg. Co.'s Aldridge 1, sw ne nw 32-9n-8e, cellar and pits.

STEPHENS COUNTY—Endicott et al's McFatridge 1, nw nw sw 11-3s-9w, dr 70 ft.

TILLMAN COUNTY — Gulf Oil Corp.'s Wearmouth 1, se nw se 31-1s-16w, dr 2993 ft.

WEST TEXAS

ANDREWS COUNTY—Fuhrman Pet. Corp.'s W. H. Boner 3-B, nw¼ sec 25, blk A-43, PSL sur, dr 3330 ft. Humble's J. S. Means 7, c se sw sec 2, blk A-35, PSL sur, top anhydrite 1846 ft, top salt 1895 ft, fsh 4202 ft; J. M. Spinks 1, c sw se sec 13, blk A-20, PSL sur, rig. J. W. Tripplehorn et al's A. R. King 2, nec n½ nw¼ sec 11, blk A-46, PSL sur, dr 3250 ft.

BORDEN COUNTY — C. Ed. Hyde and

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DEEP SHOOTING

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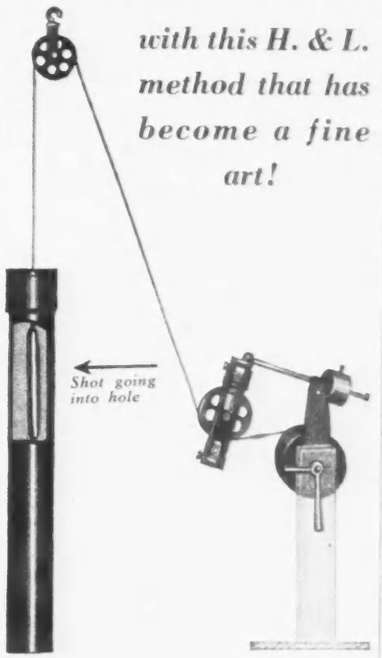

On February 26th we successfully shot a well near New Iberia, La., at a depth of 8450 feet. Previously at Baton Rouge, La., the job was perfect at 8350 feet. Prior to that we successfully shot at 8300 feet at Thompson's Dome, Texas. Thus our shooting depth record goes on!

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M. C. WOMACK (Phone 89) Thibodeaux, La.

Hugh White's W. L. Miller 1, c nw¼ sec 28, blk 33, T&P Ry. sur, T-4-N, elev 2727 ft, top anhydrite 1390 ft, top salt 1480 ft, top lime 3180 ft, sul w 3745-3805 ft, dry and abd.

BREWSTER COUNTY—Floyd C. Dodson et al's Texas American Synd. 1-A, c ne ne sec 66, blk 10, GH&SA Ry. sur, deep test, elev 4228 ft, dr 185 ft. G. H. Storey et al's Jim P. Wilson 1, c se nw sec 3, blk 212, T&St.L. Ry. sur, sd 1875 ft.

COCHRAN COUNTY—Honolulu Oil Corp.-Cascade Pet. Co.'s T. B. & R. F. Duggan 1, League 54, Oldham Co. S.L. sur, lcn.

CONCHO COUNTY — Maverick Oil Co.'s Jim Rice 1, sec 18, H&TC Ry. sur, elev 1887 ft, showing o&g 1824-46 ft, dr 2075 ft. John W. Westbrook Co.'s C. C. Ledbetter 1, sec 2, A-1673, blk 65, H&TC Ry. sur, elev 2000 ft, testing show gas, td 2110 ft.

CRANE COUNTY—Big Basin Pet. Co.'s Jax Cowden 1, nec nw ne sec 77, blk "X," dr 2275 ft. Clark-Cooper & Smith's A. P. Jorden 1, nec 160-ac lse, sec 12, PSL sur, blk B-22, lcn. A. R. Eppenauer and A. H. Livingston's Fee 1, sec 13, blk 6, H&TC Ry. sur, lcn for Ordovician lime test. D. J. Finley and A. W. Cherry's E. S. Hughes-Conoco 1, ne¼ sec 2, J. A. Prater sur, dr 2360 ft. A. H. Flaherty et al's E. S. Hughes-Texas Co. 1, sec 4, GC&SF Ry. sur A-781, elev 2467 ft, top lime 1945 ft, pb fr 2076 to 2074 ft, used 1000 gals acid, testing. Loffland Bros. et al's J. B. Tubb-Gulf 1, c nw¼ sec 9, blk B-27, PSL sur, elev 2540 ft, top anhydrite 428 ft, salt series 495-1285 ft, top brown lime 2478 ft, sd 4510 ft. Humble O&R Co.'s J. B. Tubb 1, near c nw nw sec 11, blk B-27, PSL sur, elev 2557 ft, top anhydrite 450 ft, top salt 520 ft, dr 4375 ft. John I. Moore et al's T. C. Barnsley 1, c sw sec 43, blk 32, PSL sur, Ordovician lime test, sp. Sinclair Prairie and unit members' J. B. Tubb-California Co. 1, sec sec 3, blk B-27, PSL sur, elev 2540 ft, testing 3164 ft.

CROCKETT COUNTY—J. W. Dieringer, B. C. Mann & E. M. Wahlenmaier's J. W. Robbins 1, sec 2, blk B, GC&SF Ry. sur A-5498, sd 550 ft. Dr. J. G. Harris et al's O. W. Parker 1, sec 83, blk 1, I&GN Ry. sur, elev 2215 ft, sd 1925 ft. John I. Moore et al's A. C. Hoover 1, sec sec 4, blk "FF," B&B sur, sp and sd.

CULBERSON COUNTY—Anderson-Prichard Prod. Corp.'s H. A. Borders 1, nw¼ sec 34, blk 69, PSL sur, elev 4565 ft, shows gas 4537 ft, sul w in lime 4739-50 ft, dr hfw 4907 ft.

JEFF DAVIS COUNTY—C. M. "Dad" Joiner et al's Jones-Coffield 1, ne¼ sec 8, blk 3, H&TC Ry. sur, sd 2285 ft.

ECTOR COUNTY—Barnsdall Oil Co.-York & Harper, Inc.'s H. C. Foster 2, c sw sw sec 18, blk 43, T&P Ry. sur, T-2-S, dr 2600 ft. W. H. Dunning, Jr., et al's C. Scharbauer 1, sec sw¼ sec 33, blk 44, T&P Ry. sur, T-1-N, elev 3100 ft, top anhydrite 1360 ft, salt series 1390-2475 ft, top Yates sand 2590 ft, dr 4135 ft; H. E. Cummins 1, nec se¼ sec 33, blk 45, T&P Ry. sur, T-1-N, lcn. Gulf's C. A. Goldsmith-Scarbauer 2, sec nw¼ sec 15, blk 44, T-1-S, elev 3100 ft, top anhydrite 1360 ft, salt series 1390-2475 ft, top Yates sand 2583 ft, killed heavy flow gas, td 4014 ft; Goldsmith-Scarbauer 4, dr 3860 ft. Standolind's J. E. Witcher 1, c ne ne sec 24, blk 43, T&P Ry. sur, T-2-S, pb fr sul w 4238 to 4211 ft, shot 420 qts nitro 4092-4198 ft, testing.

EL PASO COUNTY—A. M. Blume et al's F. W. Cook 1, ne¼ sec 321, S. F. No. 8134, sd 560 ft. Tri-State Oil Co.'s Chas. & L. M. Kinkel 1, nec sec 237, S. F. No. 7232, sd 1860 ft.

FISHER COUNTY — Forest Development Corp.'s A. M. Dry 1, near c sw se sec 108, blk 2, H&TC Ry. sur, dr 2055 ft. Tide Water and Merry Bros. & Perini, Inc.'s M. Howard 3, ne¼ sec 180, blk 2, H&TC Ry. sur, cem surface cas.

GAINES COUNTY—Landreth Prod. Corp.'s W. H. Kirk 1, swc sec 22, blk A-21, PSL sur, rig. E. M. Wahlenmaier-York & Harper, Inc.'s E. H. Jones-Humble 1, c sw sw sec 414, blk G, CCSD&RGNG Ry. sur, elev 3528 ft, top anhydrite 2171 ft, top salt series 2290 ft, dr 5175 ft. W. T. Walsh and Harry Adams Corp.'s S. J. Averitt 1, nec ne ne sec 228, blk G, W.T. Ry. sur, elev 3322 ft, top anhydrite 1969 ft, top salt 2030 ft, show gas 2785-95 ft, top Yates sand 2920 ft, brown lime stringer 4030-70 ft, dr 4260 ft.

GARZA COUNTY—Danciger Oil & Refineries, Inc.'s V. A. Hartman 1, sec 1401, E.L. RR sur A-294, lcn. M. L. Richards et al's Post Est. 1, nec se ne sec 6, blk 5, K. Aycock sur, hfw 2323-41 ft, dr 2350 ft.

GLASSCOCK COUNTY — Loffland Bros., John I. Moore et al's L. S. McDowell 1, c se ne sec 22, blk 34, T&P Ry. sur, T-2-S, elev 2534 ft, top lime 2137 ft, top Crinoidal lime 9471 ft, used 6000 gals acid in Pennsylvanian lime 10,115 ft, flowed 500 bbls hot sulphur w per hr from Ellenberger lime 10,883-10,906 ft, dry and abd. Fleetborn Oil Corp.'s F. C. Dodson 1, sec sec 13, blk 34, T&P Ry. sur, T-3-S, rig. Lucas Waldrop et al's W. B. Currie 1, c ne ne sec 216, blk 29, W&NW sur, lcn.

TOM GREEN COUNTY—Eugene Mays et al's Ike Funk 1, c nw sw sec 38, blk 5, H&TC Ry. sur, elev 2361 ft, so 1043-47 ft, pb fr sul w at 1454 ft to use acid, tested w, dry and abd. Spinner Oil Co.'s B. Reed 1, blk 39, Mason & Perry sur, dr 1520 ft. J. P. Williams & L. L. Ingraham's J. W. Johnston 1, se part 160-ac lse, D. Chandler sur, lcn.

HUDSPETH COUNTY—Haymon Krupp Oil & Land Co.'s S. J. Thaxton 1, near sec ne se sec 34, blk 74, T&P Ry. sur, Tsp 6, dr 830 ft.

JONES COUNTY—Bob Elmore et al's O. L. Caton 1, sw¼ sec 10, D&DA Lands sur, co 1520 ft. Hal Hughes et al's R. D. Bumpass 1 (70-ac lse), T. Maltby sur, elev 1551 ft, trace oil 1987 ft, dr 2040 ft. S. C. Herring et al's C. L. Cowsart 1 (160-ac), sec 42, O. A. L. sur, dry & abd 2280 ft. Jamison, Pollard & Forster's G. B. Triplett 1, J. Goocher sur, sd hfw 2165-70 ft.

LOVING COUNTY—Porter Rankin et al's W. D. Johnson 1, nw¼ sec 12, blk 57, T&P Ry. sur, Tsp 1, elev 2904 ft, sd 2933 ft. Mason Oil Co.'s Kyle 2, sec 17, blk 55, T&P Ry. sur, Tsp 1, lcn.

MARTIN COUNTY — Woodley Pet. Co.-Kirby Pet. Co. & Boone Bros.' F. A. King 1, nwc sw¼ sec 30, blk 35, T&P Ry. sur, T-1-S, dr 1725 ft. Benedum-Trees et al's (was Wm. Hix) O. B. Holt 1 (5000-ac), League 319, Garza County School Land sur, lcn.

MENARD COUNTY — Wilcox O&G Co.'s Lee Murchison 1, swc sec 158, Abst. 1840, elev 2190 ft, sd 646 ft.

MITCHELL COUNTY—Southern Union Gas Co.'s Costin 1, sec sec 11, blk 28, T&P Ry. sur, T-1-S, sp and sd.

NOLAN COUNTY—N. B. Hall, A. Glenn et al's Georgia Tech 1, sw¼ sec 89, blk 24, T&P Ry. sur, elev 2330 ft, sd 190 ft. David Thomas, Ridgeway et al's Mrs. G. W. Cochran 1, ne¼ sec 113, blk 1, H&TC Ry. sur, lcn.

PECOS COUNTY—Cardinal Oil Co.'s White-Baker-Gulf 1, nec sec 44, blk Z, HE&WT-TC Ry. sur, elev 2771 ft, gas pay 1661 ft, td 1875 ft, completed as 15,400,000 ft dry gasser. Dobbs Oil Co.'s J. M. Rooney 1, near c ne ne sec 12, blk 125, T&St.L. Ry. sur, dr 260 ft. Stanley A. Thompson et al's Elsinore Cattle Co. 1, lcn for Ordovician lime test. Tex-Mex Pet. Corp.'s E. T. Brandenburg 1, sec se¼ n½ sec 42, blk 8, H&GN Ry. sur, shot 150 qts nitro 2162-2315 ft, td 2325 ft, flowed 65 bbls oil 12 hrs. Trans-Texas Oil Co.'s Popham Land & Cattle Co. 1, se¼ sec 235, blk 2, GH&SA Ry. sur, co with bad hole, td 110 ft; Gallagher 1, nec nw¼ sec 9, blk 51, T&P Ry. sur, Tsp 10, lcn; C. M. Caldwell 1, sec sec 27, blk 50, T&P Ry. sur, Tsp 9, so&g 3075 ft, sd 5265 ft.

PRESIDIO COUNTY—Linderman Bros. Oil Corp.'s R. I. Bledsoe 1, swc ne sec 15, blk 351, GC&SF Ry. sur, dr 1290 ft.

REEVES COUNTY—R. W. Clark and Washington Oil Co.'s Radford 1, sec 39, blk 56, PSL sur, elev 3169 ft, sd 502 ft.

RUNNELS COUNTY — Melrose Oil Co.'s Mrs. L. P. Wood 1, nwc 30-ac lse, Willett Holmes sur No. 100, sd 2930 ft.

SCHLEICHER COUNTY — Cardinal Oil Co.'s J. A. Whitten 1, c ne nw sec 35, blk L, TC Ry. sur, elev 2353 ft, set 12½-in cas 950 ft. Mangus Oil Corp.'s (was W. C. Proctor et al) Judkins-Spencer (Pure) 1, c sw¼ sec 4, GC&SF Ry. sur, blk V-28, or Hooper-Wade sur, blk A, elev 2209 ft, showing gas, sd 4407 ft.

SCURRY COUNTY — Coffield & Guthrie, Inc.'s W. A. Wade 1, nwc sec 115, blk 97, H&TC Ry. sur, elev 2306 ft, pb fr 3168 ft to 1900 ft, testing. J. G. Bristow & R. H. Cantrell's Shannon-Magnolia 1, c nw¼ sec 331, blk 97, H&TC Ry. sur, elev 2552 ft, top anhydrite 848 ft, top salt 860 ft, set cas 1700 ft.

TAYLOR COUNTY—Hightower O&R Co.'s (was H. M. Imholz et al) Mrs. E. E. Sadler 1 (475-ac), sec 31, C. Cole sur, sd 2530 ft.

TERRELL COUNTY—F. C. Bates and J. H. Felps' J. H. Felps 1, sec nw¼ sec 5, G. W. Turley sur, blk A-4, elev 2185 ft, sd 5606 ft.

TERRY COUNTY — Danube Oil Corp.'s Brownfield 1, c se¼ sec 23, blk T, D&W sur, lcn.

UPTON COUNTY—Greencliff Oil Corp.'s J. H. Tinett-Halff 1, c ne¼ sec 58, blk Y, TC Ry. sur, elev 2648 ft, top anhydrite 1254 ft, top salt 1312 ft, dr 2060 ft. John W. Emch & Shell's Mrs. A. E. Gordon 1, ne¼ sec 47, blk Y, T.C. Ry. sur, elev 2677 ft, top anhydrite 1255 ft, top salt 1330 ft, dr 2055 ft. J. G. McKenzie et al's W. H. & L. M. Taylor 1, sec ne se sec 22, blk B-2, GC&SF Ry. sur, sd 630 ft.

WINKLER COUNTY—Crafton Oil Co. et al's J. B. Walton-Pure 2, swc ne¼ sec 1, blk B-3, PSL sur, lcn. Conoco's J. B. Walton 1, sec ne¼ sec 8, blk B-3, PSL sur, mim. The Falcon Co.'s Keystone-Humble 1, swc se¼ sec 15, blk B-2, PSL sur, elev 2950 ft, shot 500 qts nitro 3190-3464 ft, flowed 783 bbls oil. Gulf's E. R. Hill 1, swc se¼ sec 9, blk B-11, PSL sur, elev 2809 ft, top anhydrite 845 ft, salt series 1065-2355 ft, top brown lime 2415 ft, dr 3815 ft; Keystone 11, swc se¼ sec 10, blk B-3, PSL sur, elev 2939 ft, top salt 1189 ft, cem cas 3260 ft. R. H. Henderson et al's W. A. McCutcheon-Conoco 1, nec sw¼ sec 16, blk B-3, PSL sur, lcn abd. Wilson Keys and A. W. Cherry's Abilene Cent'l State Bank-Conoco 1, nwc ne¼ sec 25, blk 26, PSL sur, flowed 137 bbls oil 11 hrs at 2720-2878 ft, sd for shot. Fred Hyer et al's Cowden Cattle 1, c nw¼ sec 8, blk A-56, PSL sur, elev 3082 ft, top anhydrite 1390 ft, top salt 1500 ft, dr 2250 ft. Humble & Tide Water's J. B. Walton 1-D, sec sec 20, blk 74, PSL sur, elev 2907 ft, top anhydrite 1070 ft, base salt 2575 ft, top lime 2595 ft, dr plugs, td 2755 ft; Walton 1-C, swc se¼ sec 21, blk 74, PSL sur, dr 900 ft. C. M. Joiner et al's Cowden-R. M. Evans 1, near c nw¼ sec 46, blk 73, PSL sur, top anhydrite 1563 ft, dr 2060 ft. K. D. Oil Co.'s Pink Mitchell 1, nwc s½ ne¼ sec 23, blk B-10, PSL sur, dr 150 ft. Magnolia's J. B. Walton-State 1, nwc ne¼ se¼ sec 7, blk B-3, PSL sur, elev 2921 ft, top anhydrite 735 ft, top lime 2309 ft, fsh drill pipe, td 3363 ft. Osmond, Crandall & Joe C. Maxwell's State-J. B. Walton 1, nwc sw¼ sec 27, blk B-3, PSL sur, dr 1410 ft. Sinclair Prairie's J. B. Walton 1, nec ne¼ sec 20, blk 77, PSL sur, dr 2270 ft. Tom Sloan, Frank E. Lewis et al's John Sealy 1, c se¼ sec 72, blk A, GMMB&A sur, lcn. Sun Oil Co.'s Keystone 1, sec sec 3, blk 77, PSL sur, elev 2959 ft, top anhydrite 942 ft, top salt 1090 ft, dr 2235 ft. Superior O&G Co.'s M. J. Hill 1, sec e½ sw¼ sec 18, blk 11, PSL sur, dr 770 ft. Wahlenmaier Pet. Corp. & Atlantic O.P. Co.'s J. B. Walton-Humble 1, sec sw¼ sec 34, blk 74, PSL sur, elev 2874 ft, top anhydrite 1160 ft, top salt 1440 ft, dr 1990 ft.

YOAKUM COUNTY—Honolulu Oil Corp.-C. J. "Red" Davidson et al's L. P. Bennett-TP Coal & Oil Co. 1, c ne ne sec 678, blk "D," John H. Gibson sur, elev 3557 ft, top anhydrite 2424 ft, top salt 2535 ft, top Yates sand 3220 ft, top lime pay 5088 ft, td 5112 ft, tested salt water, testing. Lou G. Stogner et al's Goggins-Roosevelt 1, c ne¼ sec 215, blk D, John H. Gibson sur, lcn.

EAST TEXAS

ANDERSON COUNTY—Burke Bros. et al's S. G. Moore 1 (36.3-ac), J. C. Rosson sur, Camp Hill area, lcn. Standard Oil Co. (Kan.'s) B. Hombs-Robinson 2 (57½-ac), John Adams sur, Long Lake area, lcn. Comer E. Todd et al's W. T. Todd 1 (100-ac), A. B. Patton sur, sd 1485 ft. Sun Oil Co.'s Carl Rosson 2 (110-ac), W. T. Davis sur, Camp Hill area, elev 589 ft, Pecan chalk 3925-4212 ft, Austin chalk 4860-5067 ft, Sub-Clarksville sand 5069-78 ft, shale to 5085 ft, flowed 10 bbls 38° oil per hr ¼-in tubing choke. Tide Water & Seaboard Oil Corp.'s Shaw-Cern 5 (1216-ac), Dan Parker sur, Long Lake area, elev 299 ft, Austin chalk 4605-4870 ft, top Woodbine series 5148 ft, td 5349 ft, failed to flow, swabbing and testing.

CASS COUNTY—American-Liberty Oil Co.'s D. A. Maxie 1 (86-ac), John Collum sur, Rodessa area, elev 234 ft, d. 3000 ft; Marcus Rambo 1 (86-ac), J. H. Rives sur, Rodessa area, mim. R. W. Norton, Tr.'s Mary Rives 1 (85-ac), John Collum sur, Rodessa area, elev 277 ft, chalk 1895-2485 ft, top Red Beds 3394 ft, top anhydrite 5043 ft, top Hill sand 5666 ft, top Gloyd 5815 ft, top Dees 6002 ft, saturated lime 6045-57 ft, completed, flows 72 bbls per hr ¼-in choke; Rives 2, lcn. T. H. McElvain et al's C. M. Beckett 1 (7.62-ac), John Collum sur, Rodessa area, lcn. United Production Corp.'s J. R. Jones 1 (70-ac), B. J. Murray sur, Rodessa area, elev 247 ft, base chalk 2580 ft, dr 3850 ft; J. R. Jones 2, elev 207 ft, Pecan chalk 1935-2580 ft, top Red Beds 3375 ft, dr 5000 ft.

COLLIN COUNTY — Port Bolivar Oil & Ref. Co.'s O. G. Durning-Clarkston 1-A (140-ac), Wm. Creager sur, Pat. No. 1193, elev 722 ft, sd 3866 ft.

FRANKLIN COUNTY—W. C. Windsor et al's King & Hughes 1, Orlando James sur, Talco area, elev 362 ft, Pecan chalk 1621-1772 ft, with broken chalk to 1806 ft, top Woodbine series 2895 ft, sd for repairs 3198 ft.

FREESTONE COUNTY—J. P. Haley & C. F. W. Young's Jack Eppes 1 (18-ac), David Bullock sur, 8½ mi se Teague, elev 471 ft, top Pecan chalk 2965 ft, Austin chalk 3761-4143 ft, top Woodbine 4556 ft, tested sw in sand 4665-4666 ft, sdo. Tide Water & Seaboard Oil Corp.'s J. L. Johnson 1 (894-ac), H. Wheeler sur, Long Lake area, rig.

GRAYSON COUNTY—Olson Drl. Co.-Frank Gardner et al's SW Life Insurance Co. 1 (160-ac), J. C. Jamison sur A-865, 3 mi n Pottsboro, elev 767 ft, Trinity series fr surface to 850 ft, Springer shale 850-1240 ft, Mississippian Caney shale 1240-4308 ft, fine grained sand 4308-4482 ft (with odor oil-gas 4441-82 ft), chert 4482-4637 ft, top Woodford shale 4637 ft, lost dp 4670 ft, pb to 3535 ft, dr 4500 ft. Port Bolivar Oil & Ref. Co.'s Creed Taylor 1 (160-ac), J. Fitzhugh sur, 3 mi se Gunter, sd 3931 ft.

HENDERSON COUNTY—L. V. Marmar et al's I. W. Brown 1 (183¼-ac), R. H. Pearson sur, nw Cayuga area, lcn. W. McDouglas et al's E. Price 1 (216-ac), M. Mathews sur, lcn. Sparks et al's Theo E. Berry 1 (167.8-ac), Aaron York sur, No. 847, 5 mi s Brownsboro, lcn. H. M. Wilson et al's Fee 1 (943-ac), Thomas Caro sur, 5 mi n Malakoff, elev 359 ft, sd 2800 ft.

KAUFMAN COUNTY—C. C. Pearson et al's G. W. Martin 1 (100-ac), W. F. C. Butler sur, elev 429 ft, Austin chalk 1940-2200 ft, sd 2402 ft.

LAMAR COUNTY — Bruce Bros. et al's Chas. Price 1, Wm. Nelson sur, 1 mi w Trout, elev 484 ft, sd 326 ft. J. A. Forster et al's J. F. Woodward 1 (18¾-ac), J. W. Woodward sur, elev 385 ft, dr 1510 ft. North Texas Synd's D. M. Haynes 1, J. R. Craddock sur, 2½ mi nw Emerson, sd to abd, td 1800 ft. Portland Oil Co.'s J. M. Johnson 1 (96-ac), Luke Roberts sur, 1 mi w Deport, elev 467 ft, dr lime 2580 ft.

LIMESTONE COUNTY—C. F. Lytle et al's J. L. Thompson 1-T (141-ac), Pedro Varella sur, w Mexia field Trinity test, dr 3500 ft. Monte Oil Co.'s A. E. Rosson 1, blk 4, Pedro Varella sur, nw edge old Nigger Creek area, top Pecan chalk 2540 ft, sd 2600 ft.

MORRIS COUNTY—Raycotuck, Inc.'s P. M. Staggers 3, (40-ac), J. D. Nelson sur, top Pecan chalk 2525 ft, co 3800 ft. Steve J. Rotundi et al's W. & C. Smith 1 (50-ac), M. C. Vela sur, 2½ mi sw Naples, top Navarro chalk 2258 ft, dr 4105 ft.

NAVARRO COUNTY—E. M. Thomason & Co.'s Estes Bros. 1 (58-ac), blk 11, Wm. Gilbert sur, 1 mi e Roane, top broken Austin chalk 1700 ft and top hard chalk 1750' ft, dr 2000 ft.

RAINS COUNTY—W. A. Allen, Geo. W. McClung et al's Ida Bullard 7 (75-ac), Nancy Brantley sur, 2 mi sw Emory, sd 117 ft.

RED RIVER COUNTY—Annona O&G Co.'s Leo. & Otto Roberts 1 (200-ac), James Bankston sur, 2 mi ne Annona, sd 160 ft. Garson & Seigel's W. T. Morris 1 (351-ac), Joseph Guest sur, 1 mi s Detroit, elev 478 ft, sd 825 ft. Mid-West Pet. Co.-Texas Oil & Royalty Co.'s Hocker-Hughes 1 (160-ac), M.E.P.&P. Ry. sur, lcn.

RUSK COUNTY—McCallum et al's E. C. Gary 1 (265-ac), John Piburn sur, 5 mi s Henderson, elev 338 ft, co 2140 ft. J. W. Shipman et al's Citizens Nat'l Bank (L. T. Burton) 1-A (125-ac), J. J. Y'Barbo sur, 4 mi ne Henderson, elev 432 ft, fsh 3467 ft.

SMITH COUNTY—W. L. Cloud et al's Dora Kendall 1-A, John Williams sur, 3 mi e Van field, sd 180 ft. Thompson & Colby's W. P. Walsh 1, Samuel Barnett sur, 6¼ mi ne Tyler, dr 500 ft. Frank D. Staples-Edgar Hart et al's Luther Hale 1 (115-ac), T. C. Williams sur, 3½ mi nw Arp, elev 504 ft, top Pecan chalk 2925 ft, base Austin chalk 3950 ft, top Woodbine series 4120 ft, sw sand 4182-4260 ft, dry and abd. Winona Oil Corp.'s McClung 1 (23½-ac), E. Newberry sur, 1 mi e Winona, sd 1165 ft.

TITUS COUNTY—C. M. (Dad) Joiner et al's Huernish Hrs. 1, Henry P. Banks sur, 12 mi e Talco, dk. Humble's Mary D. Grove 1 (82.9-ac), Ben Jones sur, 2 mi e Talco, cem surface cas. R. L. Peveto, C. N. Housh, E. G. Thompson et al's C. M. Carr 1 (108½-ac), M. V. Delgado sur, 1¼ mi e Talco, elev 370 ft, Pecan chalk 1611-1788 ft, top broken Austin chalk 3011 ft, top hard chalk 3032 to 3212 ft, Woodbine series 3436-3866 ft, Del Rio clay 3866-3962 ft, top Georgetown lime 3962-4190 ft, Paluxy sand 4190-4208 ft, cem 8¼-in cas 4166 ft, sd to clear titles.

HARRISON COUNTY—D. J. Miller et al's Bivins Est. 1, Wm. Pettus sur, spd cemtd 12½ in csg 104 ft, wocs.

SABINE COUNTY—Occidental Realty Co. et al's Tucker 1, Moses Hill sur, rur.

SHELBY COUNTY—Potter and Rimbley's O. H. Polley Est. 1, Wm. Weimer sur, dr 2200 ft chalk. Farley & Sommers' W. C. Windham 1, Wm. Leach sur, elev 209 ft, dr 1525 ft shale. C. A. Parker et al's W. C. Windham 1, A. H. English sur, elev 219 ft, tested dry 3228 ft, dr 3317 ft shale. H. A. Stebbinger et al's Pickering Lbr. Co. 1, C. F. Henry sur, claim sg, cemtd 7-in OD csg 3815 ft, arr dr plug, td 3840 ft shale.

SOUTH TEXAS

ARANSAS COUNTY — Buckingham Oil Co.'s McCampbell 1, lots 8 and 9, sec 41; lots 8 and 9, sec 42, McCampbell Subd., James Orick survey, 2 miles nw Aransas Pass, 8 ft from San Patricio County line, dr 5500 ft.

ATASCOSA COUNTY—R. C. Lee, Trustee (Atascosa Trust), U. A. Doumch 1, 152-ac tr, blk 10, J. T. Russell sur No. 1222, 3 miles n Poteet, dr 1800 ft. W. B. Hinton's Weigand 1, in Donovan sur No. 145, lcn. R. McIntyre's (Cliff Oil) San Antonio Joint Stock and Land Bank (H. A. Billinch) 1, J. B. Woodleff sur No. 246, 7½ mi e Coughran, dr 2570 ft. L. L. Motes, Trustee's, Atascosa Co. Subd. 1, 425-ac tr, John McNeil sur No. 1191, dry and abd 997 ft.

BASTROP COUNTY—Franklin et al's Betty Lawhon 1, Standifer sur sw of Elgin, dk. G. E. Holmstrom's Brunridge 1, Enoch Harris sur, 3 mi ne Elgin, rur. G. B. Peterman's Z. C. Hemphill 1, Bymar sur, dry and abnd 2329 ft. A. W. Phillips' Vaughn Lumber Co. 1, 1110-ac tr, E. Sartuche sur No. 10, 5 mi ne Bastrop, sd 154 ft.

BEE COUNTY—Geo. M. Church's Webb-Hearn 1, in 92-ac lease, E. Ryan sur, 2000 ft se disc well Beeville field, sd 5935 ft, set 7 inch casing to bottom, perf 5900-14 ft, still flowing oil and sw, well taken over Lonnie Glasscock to rework; G. A. Ray 1, Anna Burk sur, 2 mi e Beeville, dr 2450 ft. Clyde Echols et al's T. Plummer 1, F. J. Chessman sur, dr 350 ft. Dirks Bros.' J. R. Scott 1, J. Molina sur, but in J. M. Uranga gr, 1 mi se Normana, dry and abnd 4775 ft. H. A. Pressey's R. T. Hicks 1, 1120-ac tr, Jose M. Uranga gr, ab 668, 4½ mi s of Normana, td 120 ft, set sur csg, dr ahead. G. M. Richardson et al's Mengers 1, center w 100-ac of W. R. Ryan 500-ac tr, Wm. Allen sur, near Tynan, pits dug to wait on rig.

BEXAR COUNTY — American Gas Co.'s Oliver No. 5, 400-ac tr, M. F. Rodriguez sur, Gas Ridge, td 2996 ft, set 6⅝ csg 2250 ft, bad cement job, recemented, dr plug, cleaning out hole 2210 ft. N. Anderson's Henry Fest 1, 18.75-ac tr, Rolen League & Labor sur No. 88, td 714 ft, comp 3 bpd on pump. Tom Anderson's C. J. Krause 1, S. McCullough sur, sd 350 ft. Carter & Ingersoll's Louis Mann 1, 60-ac tr, John Christopher sur, 3 mi s Von Ormy, dr 854 ft in sandy shale. J. B. Chew et al's Frank Bonkowski, Wm. McMinener sur, sec 10, dr 659 ft on 1250-foot contract. Crouch & Shadrock's W. Kohler 2, 88-ac tr A. M. Baerrera sur No. 58, dr 450 ft. Joe Deupree's Mrs. R. S. Nina (R. S. Coffey) 1-A, F. Rodriquez sur, 7 mi s San Antonio, td 1200 ft, recemented at 1059 ft, swabbing show some oil, no water; Wm. H. Russell 1, 723-ac tr, Fernando Rodriquez sur, 9 mi ne San Antonio, deepened from 1001 to 1075 ft, well heading 16 grav. oil, tubing stopped up, pulled, rerun, and prep wash; Joe Deupree's S. G. Winter 1, 330 ft nl and el of 100-ac tr in Fernando Rodriguez sur, one mile west of No. 1 Russell, mir, Gus Draper, contractor. H. J. Moore's Mrs. Lena Eisenhauer 1, 80-ac tr in Gertrude Rodriguez sur, 9 mi ne of San Antonio, sd 486 ft, wait on csg. O. M. Owensby's Minna Coreth 1, 284.04 ac tr, Adam Stafford sur No. 49, near Eckert field, sd 1240 ft, had gas show. H. A. Pagenkopf's Chas. Rittiman 1, 100-ac tr, J. Chappel sur, 12 mi ne San Antonio, near Kirby, top Edwards lime 1110 ft, reaming 1900 ft. W. A. Schaeffer Co.'s P. J. Coimperlik 1, 102-ac tr, J. M. Bustilles sur, 16 mi e San Antonio, dk. H. B. Schumacher's Hilda Gillette 1, 49-ac tr in M.

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BLANCO COUNTY—R. T. Rowe & W. E. Nixon's Polk Morrisey 3, 222-ac tr, Thomas Webb sur No. 91, 3 mi e of Blanco, sd 212 ft.

BROOKS COUNTY—The California Co.'s B. Garcia 1, tr No. 3, Las Mestina de Gonzalina gr, Alta Mesa dist, dr 3945 ft. Dick Young et al's Singer 1, ne¼ se¼ sec 312, sand 917-19 ft; dst 914-19 ft, dst failed, trying finance csg.

BURLESON COUNTY — Walter Blumenthal's G. V. Crain 1, W. C. Pearce sur, ab 297, 1 mi from Milam County line, top Pecan gap 4418 ft, fishing 5032 ft.

CALDWELL COUNTY—Pat Armstrong et al's No. 1 N. Dunlap Est., 431 ac Farm in S. Seal sur, sd 21 ft. Detroit-Texas Dev. Co.'s W. P. Dunlap 3-A, S. F. Sanders sur, Dunlap area, sd 2390 ft. J. J. Elam et al's Francis-Brown-Cochran 1, W. F. Young sur, 5 mi e of Luling, sd 27 ft, for orders. Exploration Dev. Co.'s (Fred Meyer) W. R. Eibaud 1, 57-ac tr, S. Seal sur, Dunlap area, dk. Joe Graham's Martindale 1, S. Morrison sur, e of Staples, dr 520 ft shale. W. C. Jenning's McMahan 1, James Pinchback sur, se of Lockhart, dr 920 ft. Marts & Beaven's G. Mackey 1, 201-ac tr, G. Pace sur, dr 2000 ft, oil show 1630-40 ft, dst 1610-40 ft, 30 min show 300 ft mud, small amount of mud and oil. Ogden & Reed Oil Co.'s R. B. Vickery 2, 100-ac tr, S. Damon sur, 2 mi se of Dale, td 2001 ft, set 5 3/16 csg to td, perf 1868-1975 ft, acidized with 800 gals, comp 35 bph ½ ch. Fred G. Scott's E. P. Dunavent 1, 4 mi se San Marcos, re-dr 135 ft. Sterling & Wilson's M. L. Strawn 1, Pablo Martinez sur, at Lytton Springs Townsite, sp. M. R. Tinkle et al's Arnold 1, S. Seal sur, Dunlap area, lcn.

CALHOUN COUNTY—Continental Oil Co.'s Am. Nat'l Realty Co. (Moody) 2-A (3), sec 6, blk C. P. Garcia sur, 9 mi se Seadrift, td 9083 ft, set 5¾ inch csg on bottom, collapsed, cleaning hole. Crown Central Petr. Co. et al's M. C. Driscoll 1, lot 24, Armstrong Ranch Subd, Benito Moralles sur A-28, ru. Hilton & Maise's J. Brundrett 1, 330 ft nel and nwl of tr 8 in Wm. Little sur, reinstated, td 192 ft, mim. Humble & Plymouth's Patrick H. Welder 1, 10,000-ac lse, Gardner Smith sur, dr 1600 ft, shale.

CAMERON COUNTY—W. T. Daniels & King-Woods Oil Co.'s Port Isabel Co. 1, center lot 17, shares 29, 30 and 31, Buena Vista gr, 6 mi north Bayview, sp and sd, wor.

DE WITT COUNTY — Hill Brothers & Koontze's Herman Riedel 1, 535, 5-ac tr, J. Santos sur (6 mi se of Yorktown), dr 4655 ft. Universal Oil and Glaspie's Schubel 1, C. Fitzgerald sur, ab 2 mi nw Yoakum, sd 887 ft.

DUVAL COUNTY—J. H. Chandler's Rita S. de Pena, Pena tr, sh 4, Mesquite gr, dst 2818-37 ft, show 2 joints mud, show of oil, one hr, prep abnd. Continental Oil Co.'s Clara Driscoll Sevier 8-A, in sec 50, Santa Rosalia gr, td 3465 ft, sand 3460-65 ft, set 7 inch csg 3460 ft, comp, flowing 12 bph, ¼ ch, tp 550 lbs, cp 850 lbs. Charles Daubert et al's D. F. Kreis 1, sec 518, 6 mi e Loma Novia, dr 2775 ft. Frank J. Gravis et al's Gravis et al 1, sec 250, 9 mi w San Diego, dr 4240 ft. Howard Petr. Corp.'s G. Ruiz 1, sec 5, e of Loma Novia, 4000 ft test, prep move in, contract let. Humble O&R Co. No. 1 L. & P. T. Wright, se¼ of sec 118, 1 mi n of Seven Sisters field, dr 2680 ft. Marzo Oil Co.'s E. R. Hagist 2, sec 269, 480 ft e No. 1 Hagist, Hagist area, td 2119 ft, set 7 inch csg 2107 ft, swabbing. W. C. McBride, Inc.'s E. R. Hagist 1, blk 13, sec 267, swabbed little oil, will dd, depth 2125 ft. Porter & Steven's Sutherland 1, sec 126, Hoffman area, ½ mi n production, lcn. Rancho & Gem Oil Co.'s Bishop Cattle Co. 1, 1 mi n Hoffman field, ru. Reliance Oil & Royalty Corp.'s 1-A P. L. Telford, 150 ft nl and wl of tr, sec 386, lcn. Rogers & Rogers Cuellar 1, sec 117, Hoffman area, re-completing, set 7 inch csg 2852 ft, Loma Novia sand 2854-71 ft; Sophie Hoffman 1, sec 118, Hoffman area, tested gas in Gov't Wells sand 2735 ft, show about 5,000,000 cu ft volume with 500 lbs rock pressure in 5 min, dst 2750-80 ft, no results reported; Sutherland 2, sec 120, 1150 ft nw Sutherland 1, mim. Santa Clara Oil Co.'s (Atkins & O'Neil) No. 1 Book Ranch in Santa Cruz de Concepcion gr in extreme southeast portion of county on 9829-ac tr, 6000-foot test, dr 4102 ft. Smith and Hamill's Bishop Cattle Co. 1, 330 ft nl and el of nw¼ of ne¼ of sur 70, 2 mi n of Hoffman field, lcn.

EDWARDS COUNTY—Paul Teas' J. B. Stewart 1, sec 2, GC&SF sur, 14 mi se Rock Springs, dr 2222 ft, sandy shale.

FRIO COUNTY — Amerada Petr. Corp.'s Cory & McWilliams 1, tr 13, Jose Arocha sur No. 298, 2¼ mi sw Smith 1, td 5569 ft in Austin chalk, 7 inch csg set 5434 ft, still swabbing making considerable oil; T. G. McWilliams et al, tr 3, Jose Arocha sur 299, dr 1542 ft; T. G. McWilliams et al, tr 6, Arocha sur 298, sp; T. G. McWilliams et al tr 17, J. M. Tijerina sur 300, dr 2327 ft; Halff & Oppenheimer 5, S. Glenn sur No. 335, Pearsall area, td 5362 ft, set 7 inch csg 5275 ft, swabbing, show lots of oil; Halff & Oppenheimer 6, San Antonio Ditch Co. sur 1104, td 5408 ft, top chalk 5394 ft, set 7 inch csg 5408 ft. Thornton Davis et al's Halff & Oppenheimer 1, J. D. Clara sur No. 336, 1 mi w of Pearsall field, sd 4401 ft.

GOLIAD COUNTY—Jane Oil Co.'s (Diamond Half Oil Co.) Gillett 1, J. Gomez sur, extreme western corner of county, 1 mi e North Pettus field, td 3707 ft, comp 40 bpd on pump; No. 2 Gillette, of 745-ac tr, J. Gomez sur, 660 ft e No. 1, lcn. H. J. Porter et al's J. R. Kaufman 1, 40-ac lse, A. Trevino sur, 1000 ft e of Kaufman 1-C, Hords Creek lcn abnd. Port Isabel O&G Co.'s Dauderstadt 1, in Solomon Hall sur in e end of county, 5500-foot test, dr water well (closed well). Thompson Drlg. Co.'s J. E. Pettus 1, in Maria de Jesus Y Bravo gr, 1100 ft se Stanolind No. 1, 12 mi nw Goliad, dr 2900 ft. Zeni Oil Co.'s (was S. T. Potter et al) Lutenbacher 1, blk 25, Goliad Townsite sur, south of Goliad, ru and sd.

GONZALES COUNTY—O. M. Owensby et al's H. B. Steen 1, N. M. Bane sur, sd 2135 ft. Tull et al's Boske 1, 61.2-ac tr, B. McClure sur, sd 1055 ft, shale.

GUADALUPE COUNTY—Paul Armstrong's Clem Brodnaux 1, 36-ac tr, W. P. King sur, 2 mi ne Kingsbury, dr 2033 ft, shale. Clark & Gay's Waldrip 1, center 1½-ac tr in Staples townsite, G. Allen sur, sp. Eickenroht & Gallagher's O. H. Jahns 1, 840-ac tr, Green Dewitt sur, 3 mi se South Darst Creek. Edwards lime test, dr 550 ft. A. C. Locke's H. Holmes 1, 26-ac tr, Cyrus Campbell sur, 2 mi n and w of Staples, sd 530 ft; J. S. Slaughter, C. Campbell sur, sd 1050 ft. R. C. Robbins' Mrs. J. W. Manford 1, James Hodges sur No. 374, 1250 ft e Manford pool, comp on pump. Fred G. Scott's F. P. Pooley (Walter Schultz) 1, 2 mi s Staples, sd 195 ft. H. P. Suggs & L. R. Reedy's J. H. Sherrill 1, 100-ac lse, Geo. Allen sur (1½ mi s of Staples), dr 980 ft shale. W. J. Walton et al's Antone Zoboroski 3, ne corner of 227-ac tr in Joseph D. Clements sur, td 2230 ft, set 6⅝ csg at 2156 ft, swabbed 500 bpd from soft chalk.

HIDALGO COUNTY—Dean Brothers' Mrs. Lula B. George 1, tr 13, porc 41, Reynosa Juris, 7000 ft e of discovery, 700 ft n of Samfordyce production, ru. Gerald O&G Co.'s Nelson Mortgage Co. 1, blk 38, lot A, La Blanca Agricultural subd, about four miles south of City of Donna, sp and sd. Gulf States Oil Co.'s Delta Orchards 1, lot 2, blk 73, Las Mestinas gr, 1 mi s Mestinas field disc well, coring 6575 ft; J. C. Engelman 3, lot 3, blk 70, Las Mestinas gr, 700 ft e of Mestinas field disc well, lcn. Kingwoods Oil Co.'s Osca Daskam 2, blk 30, porc 45, 10 mi ne Mission dk. Maddox & Tatum's John H. Shary 1, tr 48-2, porc 53, Reynosa Juris (abt 7 mi n and 1 mi w of city of Mission) dr 5600 ft. Maxwell-Mundy-Morris' Southland Dev. Co. (Hidalgo County Water Control & Impr. Dist.) 1, lot 11, blk 20, Alamo Land & Sugar Co. subd, Alamo gr, 4 mi s Alamo, testing 735 ft. H. J. Porter et al's C. H. Swallow, lot 5, Swallow subd, Minnesota-Texas Land & Irrigation Co. tr, s Alamo, spd and sd. Quintana Petr. Corp.'s John C. Engelman 1, e½ of lot 10, blk 94, Mestinas gr, 4 mi se of Gulf States No. 1 Engelman, coring 4150 ft. Dayle L. Smith Oil Co.'s Fairbanks & Youns 1, blk 44, porc 46, Reynosa Juris, 4 mi e Samfordyce field, dr 1810 ft. Union Sulphur Co.'s ARGL&I 7, tr No. 2309, blk 59, about 4000 ft e of Mercedes field, td 7608 ft, set 5 inch csg at 7530 ft, sand 7510-40 ft, woc; No. 8 ARGL Co. td 2120 ft, blk No. 87, N. Canisallo district, dr 6415 ft.

JIM HOGG COUNTY—P. H. Neilson, Trustee de la Garza 1, blk 293, Pippin subd, Randada gr, sd 610 ft. G. C. Rankin's Vela 1, blk 6, sec 5, sd 1911 ft.

JIM WELLS COUNTY—Houston Oil Co. et al's E. A. Hawkins et al 2, blk 11, Putnam subd, sh 3, San Diego gr, ½ mi n disc well, San Diego field, td 5000 ft, ru new rotary. O. W. Killam's George Reynolds 1, s½ of sur 28, J. Harper, grantee, 3 mi w of Orange Grove, comp water well, prep sp. Henry Mode's R. W. Owens 1, 120-ac tr, J. Poitevent sur 151, ab 366, 2 mi s of Alfred, comp. water well, prep ru. G. M. Richardson's No. 1, J. E. Garrett, sec 5, N. G. Collins gr, 15 mi n of Alice, near Highway 66, reinstated, bldg new 122 ft steel dk. J. E. Walsh's W. D. Wade 1, lot 3, blk 6, W. H. Bode subd Sandis district, sd 2920 ft, temp abnd.

KARNES COUNTY—McDowell & Evans' Bertha Ruhman 1, in tr 7, Butler subd of B. F. Ruhman land in Carlos Martinez sur, 4 mi ne of Kenedy, ru.

KERR COUNTY—Auld & Evans' I. R. Heffner 1, sec 13 of B. S. & F. sur, 25 mi nw Kerrville, sd 1435 ft. Eastland Oil Co.'s Jeff Love 7, in J. Martinez sur, sec 1594, sd 1500 ft. Evans & Edmiston's Will Auld 1, sec 1592, and on 418-ac tr, sp and sd.

KLEBERG COUNTY—Clark & Anderson's J. W. Kellam 1, lot 7, sec 53 KT&I subd, 2 mi se Kingsville field, sp and sd.

LAVACA COUNTY—J. D. Aiguier et al's No. 1 A. A. Staffa, W. R. Henesy sur, 3 mi s of nl of county, sd 2330 ft.

LIVE OAK COUNTY—Dirks Brothers' J. R. Dougherty 1, J. Beagle , 6 mi w of La Garto, ru. R. H. Feltner et al's John T. Carter & Bros. 1, nw 120-ac of w 160-ac of sec 319, T. & T. Ry. Co. sur, in extreme sw portion of county, near Sangor Ranch test, dr 2487 ft in sandy shale. Houston Oil Co.'s Mrs. C. L. Cartwright 33, 1172 ft n No. 21, 880-ac tr, Francis Botello sur, dr 4400 ft. Ogden & Reed's D. C. Reed 1, Clogg Ranch, sw part of county, dr water well. L. W. Stieren's Smith 1, 181-ac tr, T. B. Reese sur, 6 mi e Oakville, td 2980 ft, dr ahead, two dst in Pettus show sw.

MAVERICK COUNTY—I. N. Boicourt's Bandera Co. School Land, sur No. 231, 1 mi sw Darling, dry and abnd 220 ft. Fulwood & Merr's State Bank & Trust Co. 1, GC&SF sur No. 3, 2 mi n of Eagle Pass, sd 770 ft. Thompson & Streeter's Joseph Wipff 1, sec 18, 7 mi w Chittim field, 10 mi n Eagle Pass, sd 220 ft.

McMULLEN COUNTY—Darby Pet. Co.'s Hagist 3-B, A. B. & M. sur No. 181, lcn. Thornton Davis et al's (Whisenant and Trenchard) Roos Bros. 1, sur 93, 3 mi e and n of Loma Alta field, dr 850 ft. F. Daybault's Matula 1, 100-ac James Garner sur, 2½ mi sw Calliham, sd 1018 ft, installing heavier rig. Charles A. Hall No. 2 Claunch, 200-ac tr, M. Hely sur, ½ mi s Calliham, 400 ft se No. 1, sd 930 ft. Magnolia Pet. Co.'s Kincaid 1, sec 86, 3 mi e of Texio well, coring 2096 ft. W. E. Rowe's Lee 1, sw cor of ne¼ of se¼ of sec 34, La Chusa Land Co. sur, mim. Stewart et al's Guy Lowe 1, Geo. Bright sur No. 21, 2½ mi sw Tilden, sd 2250 ft. Ike W. Taylor's H. L. Lark 1, blk 56, Lark subd, E. W. H. Scrugham sur, between Calliham & Jacob field, td 980 ft, sand 967-77 ft, comp 75 bpd on pump. Witherspoon Oil Co.'s Calliham Estate 1, blk 11, M. Hely sur, lcn temp abnd.

MEDINA COUNTY—Frank A. Brown's A. E. Brueks 1, John Ward sur, sd 700 ft; Mary Win 1, John Ward sur, td 60 ft, set sur casing and sd. W. C. Campbell et al (Ed Falvey et al's) McMenemey 1, sur No. 331, G. Petty sur, 4 mi se Devine, td 2892 ft, top chalk 2800 ft, pb to 2230 ft, set csg at 1910 ft, sand shown on electric formation test 1918-2230 ft, ran tubing, swabbed so and sd. Caraco Oil Co.'s Taylor 3, Brushet sur 135, td 356, prep rework. Gates & Hill's W. B. Odom 5, 160 ft wl, 300-ac tr, H. Castro sur No. 174, 5 mi sw Hondo, dr 160 ft.

MILAM COUNTY—R. G. Cannon's H. & L. Lurson 1, 100-ac tr, S. C. Robinson sur, sp and sd.

NUECES COUNTY—Allen & McCormick's W. B. McBurnett 1, 660 ft nl, 330 ft el, lot 2, Roberts & White subd of Robt. Shallert Ranch, 5000-foot test, set sur csg. T. H. Coker & Lee Bros. Oil Co.'s A. J. Geistman 1, 60-ac tr, J. Ward sur 316, prep set sur csg. Culton & Republic Nat. Gas Co.'s 1-C Baldwin et al, blk 13, J. C. Russell Farm lots, dr 2296 ft. D. H. Hawn's Wm. Shely 1, center of 9-ac tr about 2500 ft ne Saxet Heights field, 2220 ft due s of chemical plant, Villareal sur, td 4092 ft, on RR. Commission potential test flowed 252 bpd, 3/16 ch, tp 600 lbs. cp 1350 lbs; Dr. C. W. Skipper 1, 16-ac tr, E. Villareal sur, ru. Magnolia Pet. Corp.'s J. C. Baldwin 10, 466 ft nl and wl of 140-ac tr, A. F. Martin sur 150, ru. Refugio Refining Co. (Garland Clymore) Jones Weil 1, 80-ac tr, Villareal sur, 1 mi se Saxet Heights, coring 4800 ft. Santa Clara Oil Co.'s (Atkins & O'Neil) C. H. Cooke 1, sec 14, Guadrilla Irrigation Co. sur, 4 mi e Driscoll, still dr water well. Southern Minerals Alkali Plant 1, 330 ft swl, 243 ft sel of tr, E. Villareal sur, and 1100 ft nw of Hawn No. 1 Shely, spudding in. Taylor Refining Co.'s John Dunn 1, 53-ac tr Villareal sur, td 4046½ ft, sand 4026-46½ ft, set cas to td, woc. Thompson & McGrew's A. F. Geistman 1, 120-ac tr in J. R. Ward sur 316, offset to Nelson No. 1, Buckholt, lcn.

REFUGIO COUNTY—Quintana Pet. Corp.'s Fannie Heard 1, Thomas Webb sur, ab 298, 3 mi e of Greta field, 1 mi n Tomoconnor, dk, wor. Sorey et al No. 1 Coble, 237.5 ft nl, 150 ft wl of sec 4, blk 18, Sunshine subd, Refugio town tracts, lcn.

SAN PATRICIO COUNTY—Benedum & Trees' Mrs. E. H. Welder 2, sec 19, Welder Ranch subd, 3½ mi ne Sinton, set 1500 ft sur csg, woc; Jones 1, nw¼ sec 65, George H. Paul's subd of Coleman-Fulton Pasture Co., Lands, 3 mi e Whitepoint field and 4½ mi nw Portland, dk, mir. Esnes Oil Co.'s (George E. Smith) J. L. Britton 3, 160-ac tr, sec 6, blks 7 and 8, second subd of Taft Farm Lands, lcn. Humble O&R Co.'s Godwin 2, 210-ac tr, Taft Farm Lands, sec 23, lcn; J. W. Mayo 1, J. N. W. Ottman sur, dr 2300 ft. Nabod Royalties, Inc.'s (Texon Drlg. Co.) R. L. Rambo 1, lot 6, sec 35, 4th addition, Taft Farm Lands, ½ mi e of s end of Plymouth field, ru. Hiriam Reed et al's (Herman Heep) R. Svedlenak 1, lot 1, sec 5, first addition, Taft Farm Lands, 1½ mi s Taft discovery, td 6032 ft, dry and abnd. Shell Pet. Corp.'s G. W. Pullin 1, sec 1, second addition Taft Farm Lands, w offset Taft

field discovery well, lcn. Stanolind O&G Co.'s Floerke 1, lot 5, blk 17, first addition Taft Farm Lands, 4 mi s and e of Taft field, dr 5123 ft. Willis Storm's Nancy Hobbs 1-A, 50-ac tr, digging pits, contract let to Rowan & Hope for 7000-foot test.

STARR COUNTY—Ash & Tackett's R. E. Margo 1, blk 4, sh 3-B, porc 70, Juris of Mier, sd 378 ft. O. G. Borah et al's V. C. de Guerra 1-A, sh 92, porc 68, 2 mi n of Roma, sd 260 ft. John H. Clopton's Kelsey Bass 1, center sec 357, 8 mi s of Cuevitas, dry and abnd 2515 ft; No. 2 A. K. Bass, sec 377, 1½ mi s No. 1 Bass, drlg 300 ft. Coreta Pet. Co.'s J. H. Burnett (Heden et al) 1, sh 47, porc 80, sd 1500 ft. Griffin & Kimbrough's Guerra 1, sh 298, porc 69, n of Mier, lcn. Harter & Maynow's Sanchez 3, sh 69, porc 72, n Roma, sd 512 ft. Marc Jenkins' Wm. Martin 1, sec 627, 13¾ mi ne Rio Grande City, sd 775 ft. Sun Oil Co.'s Chapatala Land Co. 1, porc 99, 600 ft w of prod, ru. Otto W. Woods' H. P. Guerra 1, lot 35, Conroe subd, porc 55, Mier Juris, spud in and sd.

TRAVIS COUNTY—Albrecht & Brinkrueger, Sr.'s M. C. Swenson 1, 75-ac tr, L. Kimbro League, sec 5, sd 310 ft. G. A. Artz & Co.'s Wolff 1, Thomas Hancock sur No. 20, ½ mi n New Sweden, underreaming 6⅝ inch csg at 1160 ft. Mrs. Turner's M. E. Abramhon, 150 ft swl, 300 ft sel of M. E. Abramhon 108-ac tr, L. Kimbro sur, dr 655 ft in shale. Walden Oil Co.'s P. C. Willis Est. 40-ac tr, J. Kemp sur, top chalk 892 ft, top serpentine 952 ft, sd 1004 ft.

VICTORIA COUNTY — Barnsdall & Felmont's W. R. Smith 2, A. Murray sur, ab 259, Placedo field, coring 5735 ft. Costa & Eastern Texas' Kruppa 1, Rupley sur, ab 290, top sand 5479 ft, td 6468 ft, plugging back. Guiberson & Chas. Pettit's Oscar Wedemeier 1, 406.82-ac tr, Jose Carabajal sur, 4 mi nw of Victoria, dry and abnd 5950 ft. Rowan & Hope's A. W. Scheel 1, Scheel 195-ac tr in J. N. Escalera gr, lcn. E. L. Smith & Gulf Prod. Co.'s S. E. Wright 2, J. M. Brownson sur No. 8, Placedo area, td 6085 ft, under control. S. C. Yingling's Jacob Stehle 1, 15-ac tr, P. Callardo sur, ab 32, 1 mi sw of Coleto Creek field, dr 5380 ft in sticky shale.

WEBB COUNTY—Foster Barnsley's C. H. Webster 5, ne¼ of sw¼ of sur 684, sd 2965 ft. O. W. Killam's A. M. Bruni 45, sec 453, td 3012 ft, sw sands 2708-53, 2792-98 and 3005-12 ft, pb to 1797 ft, dr out to 1810 ft, comp 16 mcf gas per day 450 lbs rp. A. M. Bruni 46, sur 455, dr 1800 ft; A. M. Bruni 6, tr B-7, El Ranchito 6723.5-ac tr, J. V. Borrage gr, td 300 ft, woc. Luling O&G Co.'s Peal 1, 330 ft sl and el of nw¼ of se¼ of sur 72, clearing lcn. Payne & Martinez's Mrs. M. P. Perry 1, sur 771, lcn. S. S. & B. Oil Co.'s Lone Star Construction Co. 9 (now Lutex Oil Co.), porc 12, ¼ mi nw of Laredo, sd 2004 ft. South Texas Oil Co.'s Fee 1, blk 21, sec 768, 1½ mi sw Laurel field, sand 1728-42 ft, 7 inch csg 1729 ft, sd 1742 ft. Southwest Drlg. Co.'s Rufino Lopez 1, ne¼ of sur 139, 4 mi n and e of Bruni and 5 mi s of Lopez field, dr 2270 ft, top Cole 1672 ft. W. H. Vernor, Tr.'s Jefferies Ranch 1, blk 13, sec 1453, 30 mi nw Laredo, dr 995 ft.

WILLIAMSON COUNTY—Fritz Fuchs' A. Bracker 1, Mahon sur, sd 1230 ft. Glass Bros. A. Albert 1, P. Coursey sur, sd 785 ft. Holdeman, Nations & Hornberger's H. F. Teggeman 1, sec 4, H&TB Ry. sur, 2 mi nw Thrall, sd 520 ft. G. A. Ripley's L. Malmquist 1, 105-ac tr, P. J. Wyche sur, 1½ mi se Coupland, dr 498 ft, shale. Taylor Refining Co.'s Christianson 1, 150 ft nl and el of tr, R. B. Bissett sur, dr 930 ft.

WILSON COUNTY—Comet Oil Co.'s Jim McDaniel 1, 343-ac tr in Concepcion Botello sur, 4 mi Poth, sp and sd. A. G. Reimenschneider's Lon Harrell 1, 209-ac tr in Manuel Baerrera sur, 5 mi s of Floresville, sd 890 ft, sand shale.

ZAPATA COUNTY — Murt Cullinan's E. Gutierrez 1, blk 4, sh 2, Fansler Partition, Comitas gr, 2 mi Escobas field, abnd 2014 ft. J. J. O'Hern et al's S. Heal 1, blk 3, porc 27, 7 mi ne of Charco Redondo field, dr 2335 ft.

ZAVALLA COUNTY—W. L. Bridges' E. B. Flowers 1, sec 19, blk 1, I&GN RR. sur, sd 304 ft. Frank Buttram et al's Whitecotton 1, B&M sur No. 1, mir. Leona Oil Corp.'s George West 1, C. Bustillo sur, No. 1, prep to run 10 inch csg at 245 ft.

TEXAS GULF COAST

BRAZORIA COUNTY—Gulf's Fairfield 1, Lochridge prospect, A. Robeson sur, reported dr oil sand at 6274 ft. Strake Pet. Corp.'s Poole 1, Poole Ranch prospect, W. Eggers sur, woc 1580 ft.

BURLESON COUNTY — Walter Blumenthal's Crain 1, se of Rockdale, W. C. Pierce sur, dr shale 5140 ft.

CHAMBERS COUNTY—Black Gold Pet. Co.'s Barrow 1, Jackson Lake prospect, R. Barrow sur, dr shale and lime 8103 ft.

COLORADO COUNTY — Coyle-Concord's Powell B-2, Garwood area, I&GN sur, no report.

GALVESTON COUNTY—Sun's Hughes 1, Green Lake prospect, W. C. M. Baker sur, fsh 8596 ft.

HARDIN COUNTY—Republic Prod. Co.'s Burrell Fee 1, n of Silsby, A. A. Burrell sur, dr to 7777 ft, pb 4425 ft, sdtr 3650 ft.

HARRIS COUNTY—Cockburn Oil Corp.'s Thompkins 1, Burnett Bay prospect, N. Lynch sur, abd 7008 ft. Glenn H. McCarthy's Houston Ship Channel 1, Cockburn prospect, R. R. Vince sur, abd 6028 ft. H. C. Hill's Swilley A-1, Sheldon prospect, V. Blanco sur, sd 7517 ft; same operator's Swilley B-1, V. Blanco sur, sd 7566 ft.

JEFFERSON COUNTY—Sun's Broussard 1, Labelle area, B. Blackmon sur, milling 7403 ft. Smith & McDannald's Grinell 1, n of Port Arthur, Grisby sur, dr shale 1202 ft.

MATAGORDA COUNTY—Hammon Exploration Co.'s M. Cleveland 1, se of Bay City, E. Hall sur, comp 85 bbls 35 gr. oil daily 9361 to 9370 ft. Helmerick & Payne's Hawkins 1, Sheppards Mott, D. A. McCarthy sur, swabbing salt water at 7816 ft. Sun's Craig 1, e flank Hawkinsville dome, T. Williams sur, dr shale 5461 ft.

MONTGOMERY COUNTY — Chapman & Smith's Delta Land Co. 1, T. Sheppard sur, dr shale 2270 ft; same operator's Delta Land 2, sd 2501 ft. Chas. Gholson et al's Johnson 1, nw of Willis, dr shale 3938 ft. Jack Frazier's Maxey 1, J. Brown sur, dr shale 2286 ft.

ORANGE COUNTY—Blue Line Oil Co.'s Peet 1, n of Orange, R. Ballew sur, sd 2695 ft.

POLK COUNTY—J. T. Lightfoot's L. Davidson 1, ne of Corrigan, Houston County School Land sur, dr shale 1749 ft. Gist & Graddy's Knox 1, F. Chair sur, dr shale 2490 ft.

WHARTON COUNTY—Pure's E. Paige 1, Blue Basin prospect, J. Pirie sur, sd 7676 ft. A. C. Cockburn et al's Connor 1, Leach prospect, E. T. & R. R. sur, dr shale 2760 ft.

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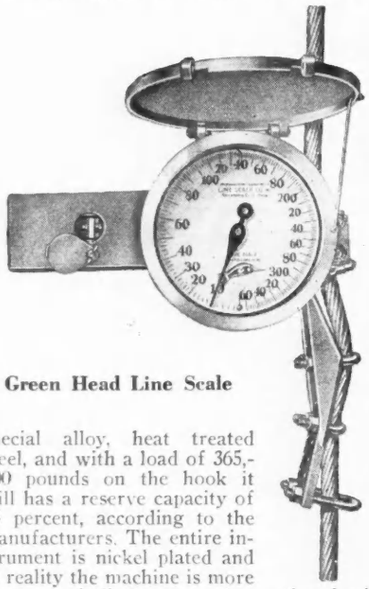
LINE SCALE
Green Head Bit & Supply Company

Green Head Bit & Supply Company, Oklahoma City, has developed a new line scale that operates without fluid and with no temperature variation. The hand indicator is in plain sight and points to the number of thousands of pounds on the hook at all times.

The spring on the line scale is made of



Green Head Line Scale

special alloy, heat treated steel, and with a load of 365,000 pounds on the hook it still has a reserve capacity of 35 percent, according to the manufacturers. The entire instrument is nickel plated and in reality the machine is more than an indicator, as the entire load is weighed. All that is necessary in changing to any number of lines is to place the middle clamp bolt in the hole in the angle arm so the weight of traveling block and hook register correctly on the dial. The weight of drill pipe, kelly, drill collars, hook and block will be indicated, plus the amount of pull if the pipe becomes stuck in the hole.

The instrument has been tested on an Olson Machine and has a constant calibration curve from zero to full load. It may be made right or left hand by turning the dial and the hand one-half turn.

UTILITY TOOL
Chisholm-Moore Hoist Corp.

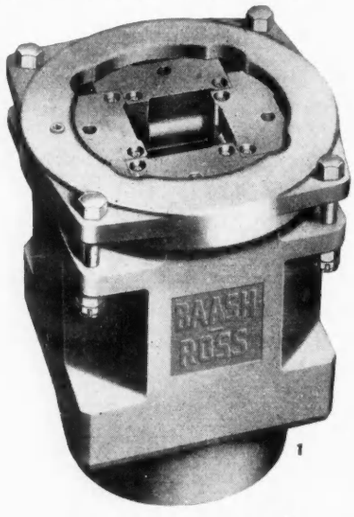
Chisholm-Moore Hoist Corp., Tonawanda, N. Y., recently introduced the "CM" Puller, a general utility tool for lifting or pulling vertically, horizontally or at any angle. Capacities are ¾ ton and 1½ tons.

The new puller is intended for numerous pulling jobs, such as tightening guy wires, stretching fence, pulling posts, trench work and also for general maintenance and construction service. Almost every industry has many applications for a tool of this type, the manufacturer claims.

An efficient gear reduction in both capacities provide for a minimum amount of effort to operate the ratchet handle—43 pounds to pull ¾ ton. Light weight greatly facilitates handling—¾ ton size weights 17 pounds. Little space is required in service or storage as minimum distance between hooks on ¾ ton size is only nine inches. Handle is collapsible for tool box storage. "Herc-Alloy" double duty, alloy steel chain, with ultimate strength considerably in excess of five times capacity load, cannot kink or become bent or strained in handling or storage. Operation is controlled by two buttons which also permit quick adjustment of chain. Mechanism and automatic friction brake are fully enclosed with no exposed bearings or springs, and are packed in grease with no further lubrication required.

KELLY BUSHING
Baash-Ross Tool Company

Baash-Ross Tool Company, Los Angeles, offers a roller kelly bushing with full-width rollers that was designed to permit accurate control of drilling weight, to relieve the strain on rotary table bearings and wire lines, and to promote the even feeding of drilling bits and core barrels into the formation. The use of the roller kelly bushing greatly increases the accuracy of weight indicator readings, it is claimed.

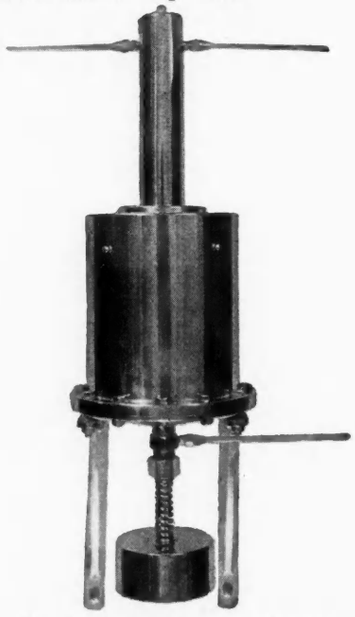


Baash-Ross Kelly Bushing

The bushing consists of a steel body, through which the kelly is passed, recessed to receive four multiple-roller assemblies. The rollers are set horizontally so that they bear on each of the faces of the kelly and rotate when the kelly is raised or lowered. The body fits the square of the rotary table opening, torque being transmitted to the kelly in the same manner as when a conventional drive bushing is used.

Binding of the kelly is eliminated by the use of the roller kelly bushing, it is said, resulting in a free, even feed through the table even at high rotating speeds. Thus, the danger of twist-off, resulting from the rapidly rotating bit being suddenly halted by taking too deep a "bite" into the formation, is minimized. Roller assemblies are fitted with high pressure grease connections to simplify lubrication.

HYDRAULIC PRESSURE BOOSTER
Martin-Decker Corporation



Martin-Decker Pressure Booster

Martin-Decker Corporation, Long Beach, California, recently developed a hydraulic pressure booster, designed especially for testing gauges, castings, connections and pressure vessels in the shop or laboratory. It requires no special pumps or motors to build up pressures, and was designed to operate from the regular source of water or air supply for the plant.

The booster consists of two cylinders, one a low pressure, into which is connected a line from the plant water or air supply system, and the other a high pressure, with a lead out to the gauges or lines to be tested. The booster is mounted on the test bench, or in any convenient place, with the necessary connections and valve to operate it. By manipulating a valve from the plant pressure supply line, pressures can be built up to 5000 pounds at a very slow steady rate or as rapidly as desired. It is especially useful in testing gauges and manifolds where small volumes and high pressures are required. The device is manufactured to provide various capacities and various pressures as required.

DIESEL HANDBOOK

"Elements of Diesel Engineering" is the title of a new 478-page book written by Orville Adams and obtainable through Gulf Publishing Company, Box 2811, Houston, Texas. The price is $4.00.

The purpose of this new manual, which

is written in simple language and copiously illustrated with numerous helpful graphic charts and lettered sectional and phantom drawings of all types of engines and their parts, is to instruct the beginner in the elements of the subject.

Many practical men engaged in gasoline engine operation and servicing need instruction presented in the clear way it is in this manual and the students of engineering will find the practical explanation and summaries of numerous basic factors of Diesel design and construction of great benefit. The book is suitable for either home study or class-room use and will help prepare men to enter this new and lucrative field in a minimum of time.

Every basic fact necessary to a complete understanding of the elements of Diesel construction and operation seems to be explained, analyzed and briefed for easy assimilation by readers of ordinary mechanical ability.

Considerable space is devoted to the development of high speed automotive Diesels, both in Europe and America and a grouping of chapters on Operation and maintenance of the engine and its auxiliaries is practically another book in amount of text matter.

The engineering student will appreciate the numerous working drawings of engines and parts with everything in correct proportion. The student, as well as the Diesel instructor, will find the Questions and Answers for review at the end of each chapter valuable for examination purposes.

COMPANY REPORTS

A 39-page mimeographed report, entitled "The Annual Report to Stockholders of Oil Companies," discusses the present trend toward greater itemization of financial statements of oil companies, and toward more complete interpretation and clarification of the financial data. The report analyzes the reports of 28 oil companies for the past five years. The more recent reports, it is shown, have tended to inform the stockholder more fully on the outstanding problems of the year, operating, financial, and political. Copies of the report may be had from the Policyholders Service Bureau, Group Insurance Division, Metropolitan Life Insurance Company, 1 Madison Avenue, New York, N. Y.

This Week with the Industry's EQUIPMENT SUPPLIERS

Midwest Equitable Combines Sales Meeting and Short Course

Midwest Equitable Meter Company, a division of Pittsburgh Equitable Meter Company, recently held a combined sales meeting and short course at the company's Tulsa plant. Sales and service problems were discussed generally, and representatives were called upon to explain the construction and use of each of the company's products. A. J. Kerr, general manager, was in charge of the meeting.

Miller Sand Pump In New Headquarters

Miller Sand Pump Company announces it has established main headquarters at 1520 Southeast 29 Street, Oklahoma City, Oklahoma, and that the former headquarters at Sapulpa, Oklahoma, will be maintained as a branch plant.

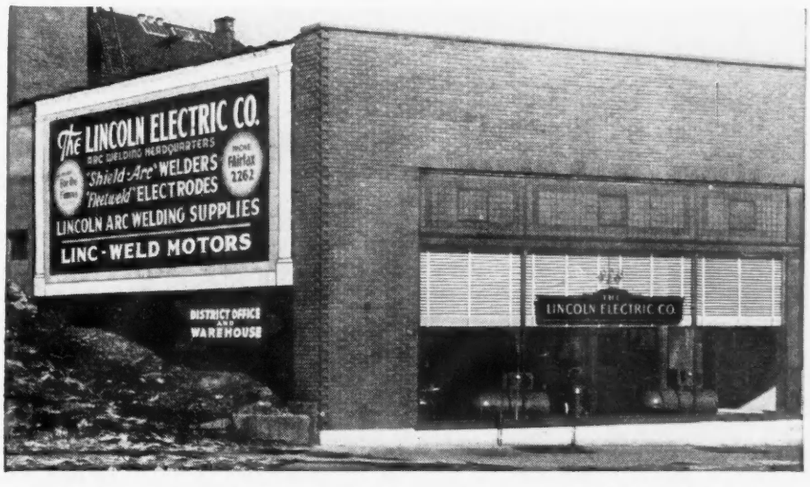
Lincoln Moves Pittsburgh Office to Larger Quarters

The Lincoln Electric Company, Cleveland, Ohio, announces the moving of its Pittsburgh office to larger quarters at 926 Manchester Boulevard.

The new location contains 1000 feet of floor space for storing and displaying arc welders, electrodes and supplies and, because of its ready access from all parts of the city, will afford prompt service to all users of arc welding in the Pittsburgh district. A complete line of Lincoln welders, ranging in size from 100 amperes to 600 amperes, will be on display. Approximately five tons of Lincoln electrodes will be stocked.

Pensonnel includes: F. M. Maichle, district manager; W. R. Persons and H. E. White, sales engineers; and Miss Esther Lee, in charge of the order department.

Opening of the new office marks the beginning of the nineteenth year during which The Lincoln Electric Company has maintained direct sales representation in the Pittsburgh territory.



New Pittsburgh office of The Lincoln Electric Company at 926 Manchester Blvd.

RAY S. KAIL

Baker Oil Tools Adds to Gulf Coast Personnel

To better serve its customers, Baker Oil Tools, Inc., recently transferred Ray S. Kail to the Gulf Coast. He will make temporary headquarters at Houston, where W. A. (Red) Davis is district manager.

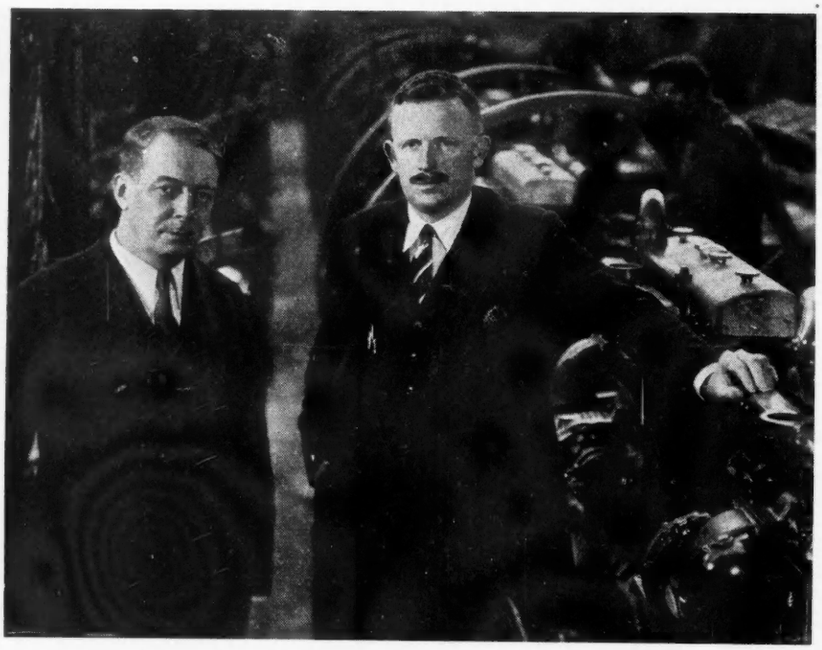
It is planned for Kail eventually to establish permanent residence in one of the principal cities in the Southwest Texas territory and cover all active fields in that district.

This move is occasioned by the desire of the company to take care of increased business in the Gulf Coast area, and to augment the improved service soon to be available through its new plant now building in Houston.

English Diesel Designer Visits America

J. H. Pitchford, Diesel specialist and assistant to H. R. Ricardo of Ricardo & Company, research and consulting engineers of Shoreham, England, is visiting America, and consulting with the engineers and research staff of Waukesha Motor Company and other licensees under the Ricardo patents for Diesel engines. Pitchford has been associated with the Ricardo laboratories for 10 years in research and development of the high-speed oil engine. The original research work done under the direction of Harry R. Ricardo, which led to the "Comet" development, was begun in 1930, and owing to the urgent economic need for suitable Diesel vehicle power, it was brought to a state of commercial perfection by 1931—a remarkably short time for the solution of a problem involving so much new work on fuels as well as combustion chamber phenomena.

"It seems surprising to me," said Pitchford, "that with the magnificent



J. B. Fisher, chief engineer, Waukesha Motor Company, (left) and J. H. Pitchford, Diesel specialist with Ricardo & Company, Shoreham, England.

facilities everywhere in America and the very advanced developments in the petrol motor car and the petrol engine that relatively little, so far as I can discover, has been done with the Diesel engine in America. Of course, the Diesel has come in for a great share of publicity lately with the remarkable performance of some of the streamlined Diesel powered railway trains, but the opportunities for these spectacular performances are relatively few compared with the tremendous field for the practical application of the Diesel engine to motor coach and highway transport units. In England alone there are over 6000 Diesel engine buses and lorries, and even though the price of Diesel fuel and petrol is the same, there is a 50 percent saving in fuel costs possible because of the greater mileage per gallon of Diesel fuel."

He further stated that in Northern Italy, over the Alps, there are, in regular service, fleets of Diesel trucks encountering long grades and great altitudes similar to the Rocky Mountains in this country and that in these operations, owing to a more favorable price for Diesel fuel than occurs in Great Britain, savings of 60 to 70 percent are not uncommon. The London Passenger Transport Board which is a government bureau supreme over all London transport lines, and operates a fleet of more than 4000 motor coaches —more than five times as many as serve the city of Chicago—after using 850 Diesel buses for the past several years has announced that all future contracts for new vehicles will be for oil-burning Diesel equipment.

"The engines built in America by the Waukesha Motor Company have all of the best features used by our European licensees, and besides that there are a lot of purely American refinements that we on the other side might use to advantage," Mr. Pitchford concluded.

He is planning to visit the large automotive centers before returning to England the latter part of this month.

Four Wheel Drive Sends Giersbach to Shanghai

Four Wheel Drive Auto Company, Clintonville, Wisconsin, announces appointment of Melvin Giersbach, former export representative in Western Canada, the Near East and New York, as export representative in Shanghai, China, where he is now enroute. Giersbach has been with the company 10 years.

Jorgensen Opens Houston Warehouse for Steel Sales

Earle M. Jorgensen Company has opened a sales office and warehouse in Houston, where they will carry for immediate delivery, representative stocks of alloy, tool, stainless, carbon and other special steels.

Operating under a jobbing arrangement with Bethlehem Steel Company, the Jorgensen organization have specialized for many years in adapting and developing steels for manufacturing oil tools and equipment.

A. J. Stetter will act as district manager, in charge of sales office and warehouse located at 5311 Clinton Drive, Houston, Telephone Capitol 7371. Stetter has a background of several years experience in both the metallurgical and manufacturing divisions of Bethlehem Steel Company and recently has specialized in steel applications to meet the needs of the petroleum industry.

General Electric Appoints Two New Assistant Managers

General Electric Company, Schenectady, New York, announces J. D. Wright, former head of the company's steel mill department, and Karl H. Runkle, former manager of sales of the mining and steel mill section, have been made assistant managers of the industrial department. Wright holds a B.S. degree from the University of Wisconsin and has been with General Electric Company since 1909. Runkle holds an electrical engineering degree from Iowa State College and has been with General Electric Company since 1918. He has done industrial work for a company affiliate in Chile and Peru.

Houston.—Reed Roller Bit Company on March 11, will consider advisability of changing the number of shares of the capital stock of the company, without changing the actual capital thereof. The stock was initially listed on the New York Curb Exchange several months ago.

A. J. STETTER

Earle M. Jorgensen Company's new warehouse in Houston.

Squeaks from the Bull Wheel

Enlightenment

"Why were you kissing my girl in a dark corner last night?"

"Now that I've seen her in the daylight, I wonder myself."

Condition

She (gushingly) "Will you love me when I am old?"

He—"Love you? I shall idolize you. I shall worship the ground under your little feet. I shall—um—er—You are not going to look like your mother, are you?"

Putting on Airs

As the colored doorman ran down to open the limousine door, he tripped and rolled down the last four steps.

"For heaven's sake, be careful," cried the club manager. "They'll think you're a member."

No Mind Reader

"Is my face dirty or is it my imagination?"

"Your face is clean; I can't tell about your imagination."

Girl's Definition

"A bolt is a thing like a stick of hard metal such as iron with a square bunch on one end and a lot of scratching wound around the other end. A nut is similar to the bolt only just the opposite, being a hole in a little chunk of iron sawed off short, with wrinkles around the inside of the hole."

Rah!

Tourist (in Yellowstone Park)—"Those Indians have a blood-curdling yell."

Guide—"Yes, ma'am; every one of 'em is a college graduate!"

Short and Snappy

A fool and his money are invited places.

The gossip should be classed as a tale-bearing animal.

It wouldn't hurt if the colleges would work their way through some of the students.

When a man begins to realize the truth about himself, it frequently retards his program for reforming his neighbors.

The correct estimate of a man is about halfway between what his wife thinks of him and what his stenographer knows about him.

Bad Connection

"Hello! This is long distance. I have a call for you from Miami."

"Hello! This is Ben. Listen, Jack. I'm stranded here and need $100."

"Something must be wrong with the 'phone."

"I want $100."

"Something must be wrong with the connection."

Operator: "I can hear it O. K."

"Well, you give him the $100."

Slight Mixup

Just a few hours before boarding a train for an out-of-town visit intended to be restful, a New York business man received a telegram from his prospective host that read: "Bring your tuxedo and three dames pickaback."

He wired back: "I strive to please, but you ask too much."

In time for him to make his train, but a little too late for him to comply with the request, he received a corrected telegram, which read: "Bring your tuxedo and three games of kickback."

Sad Ending

"I hope that's a nice book for you to read, darling," said a conscientious mother to her young daughter.

"Oh, yes, mummy, it's a lovely book, but I don't think you'd like it. It's so sad at the end."

"How is it sad, dear?"

"Well, she dies, and he has to go back to his wife."

Citizen Applicant

Judge—How many states are there in the Union?

Dominick—Don't know. I ask you how many banan in a bunch. You know your biz, I know mine.

Week's Notice

The mistress of the house took a friendly interest in her maid's love affair. One day she asked about it.

"Oh, I've given that fellow up now," said the girl coolly.

The mistress expressed her regret; but two days afterward she saw her maid out with the same young man.

"Mary," she said in tones of surprise when the girl returned, "I thought you told me you had given up that young man."

"That's right, ma'am, I have," said the girl airily. "But you see what it is; I had to give him a week's notice."

All Depends

Passenger—Have I time to say goodbye to my wife?

Porter—I don't know, sir; how long have you been married?

Suit Yourself

I wouldn't cry like that, my little man.

Cry as you damn please; this is my way.

Helpful

"What did your son learn at college?"

"Wal, he hadn't been home a week before he showed me how to open bottles with a half dollar."

Right

"I got up at dawn yesterday to see the sun rise."

"You couldn't have chosen a better time."

Agreed

A man on trial for his life was being examined by a group of alienists. Suddenly one doctor jumped up and shouted at him: "Quick, how many feet has a centipede?"

The man came back in a dry, dry voice:

"Gad, is that all you have to worry about?"

Early Start

Young Mother—What makes you think our boy is going to be a politician?

Young Father—He says more things that sound well and mean nothing than any other human being I ever saw.

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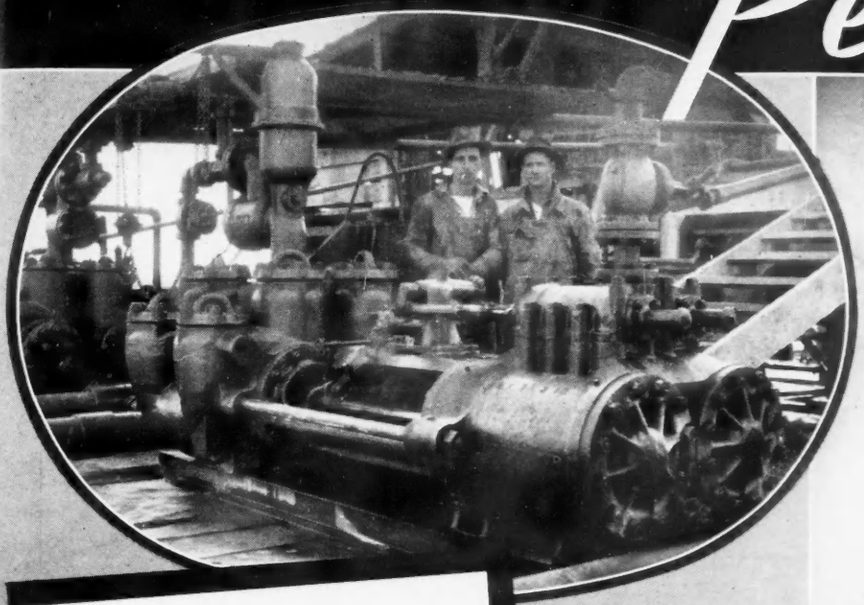

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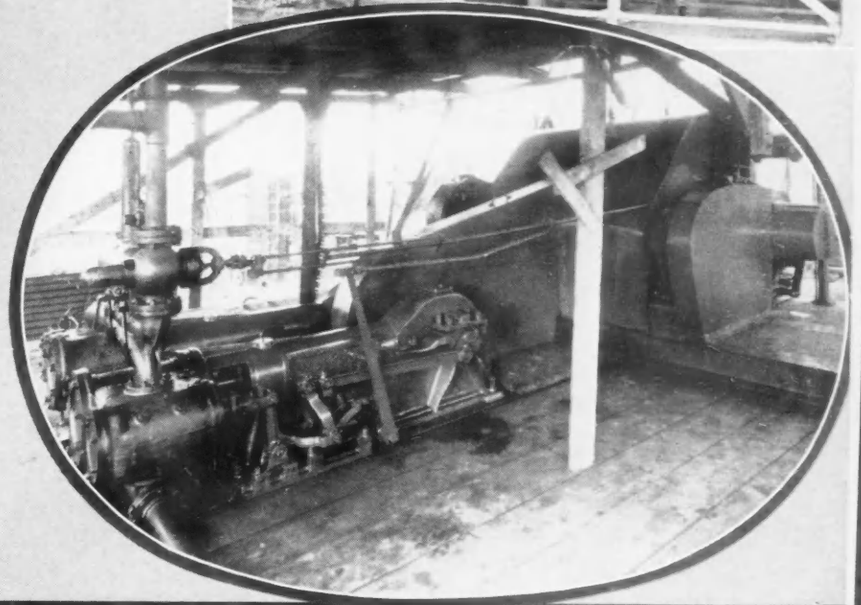

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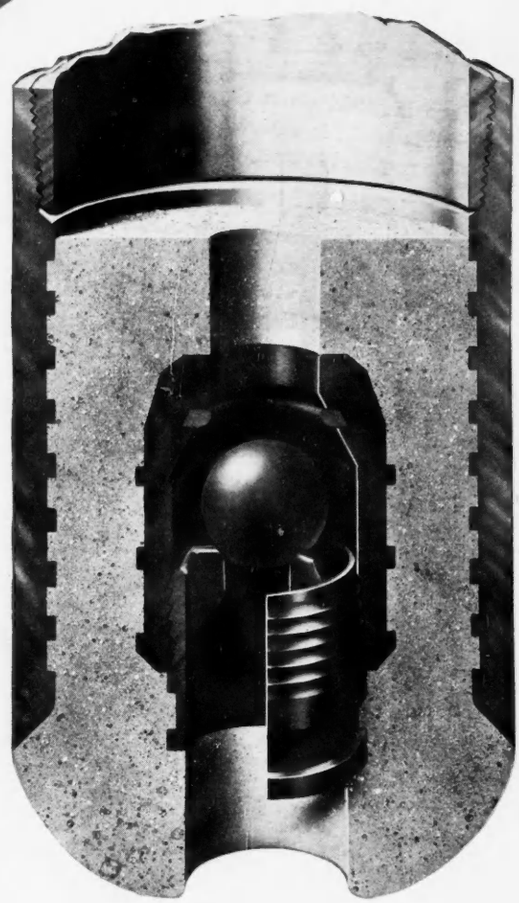

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